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CONFLICTS OF PERCEPTION AND USE  
IN BANFF NATIONAL PARK

by



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## ABSTRACT

Recent increases in the recreational use of Banff National Park have led to conflicts between the development of recreational facilities and the maintenance of the natural landscape. This conflict involves both land use in the park and people's perception and interpretation of the park. The study of users' perceptions is considered one approach to solving the conflict because the information it provides facilitate guidelines for management planning decisions and choices which are based on an increased awareness of alternatives.

Downhill skiers are among those users whose activity is in conflict with the maintenance of the park landscape in its natural state. This thesis analyses the perceptions skiers have of their activity, of the park and of the relationship between the two. The study found that skiers as a group, failed to perceive the nature of their activity's relationship to the national park and its aims. Skiers did not prefer the maximum recreational development of the park, but they were unaware of their impact on its resource base and of the outcome of the continued development of recreation facilities.

The application of the concept of perception as a research technique makes possible some comments on its usefulness. The concept is in its infancy and contains a number of theoretical and methodological deficiencies. Nevertheless it is concluded that the use of the concept is a valuable research technique and one which can be applied to help management decision making in the maintenance of park quality.



The study also examines some of the major factors responsible for present conflicts of use and perception. These include the inadequacy of policy guidelines for managing the park, the historical development of park functions and perceptions, and the present recreational demands on the park. In the case of downhill skiing these factors have combined to permit the impairment of the natural landscape in the park by a local skiing population whose effects are disproportionate to the number of people benefitting from the activity.





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## INTRODUCTION

### GENERAL STATEMENT OF THE PROBLEM

In recent years there has been a large increase in the use of Banff National Park. This has placed pressure upon the resource base of the park and posed problems of land use conflict. Here, the focus has centred on the tension between the preservation of a natural area and the development of recreational facilities in the park. The tension is not only between land uses but between people and agencies who interpret the park policy in the light of their own perceptions of the park resource and its use.

This situation embodies issues of managerial policy and the relationship of visitors to the national park. The objective of management should be the maintenance of the quality of the park in terms of its basic function. An immediate problem is to establish which recreational uses can be satisfactorily accommodated in the park. The use of perception studies as a research tool is considered as one means of dealing with this problem. The study attempts to assess the relationship of one recreational use, downhill skiing, to the national park resource and park policy aims. Skiing is one of a number of facilities-oriented recreational uses which have been viewed as a threat to the park landscape which would have similar effects as past economic activities (Nelson, 1969). Assuming that behavior is reflected in the way a person or group perceive the environment it can be hypothesized that skiers will possess perceptions of the park resource and its use similar to those shown by early economic exploiters. Skiers' perceptions concerning the park resource and its



relationship to their activity are evaluated by questionnaire. Their perceptions are assessed both by comparing them to a group of known conservationists who also answered parts of the questionnaire and to implied perceptions of the park that were expressed by management and visitors during its history.

The focus on skiing is made to indicate the relationship of a facilities-oriented recreation to the park, and to aid management decision making in alleviating conflicts which exist between such recreational uses and the preservation of a natural area. A consideration of the relationship between skiing and the national park is related to wider elements of the resource and its use.

The tension between recreational use, and particularly facilities-oriented recreation, and the preservation of a natural area is a legacy of both historical development of the park and the rising demand for recreation. Both of these aspects are considered in the study together with the effect of recreational activity on the quality of the park resource.

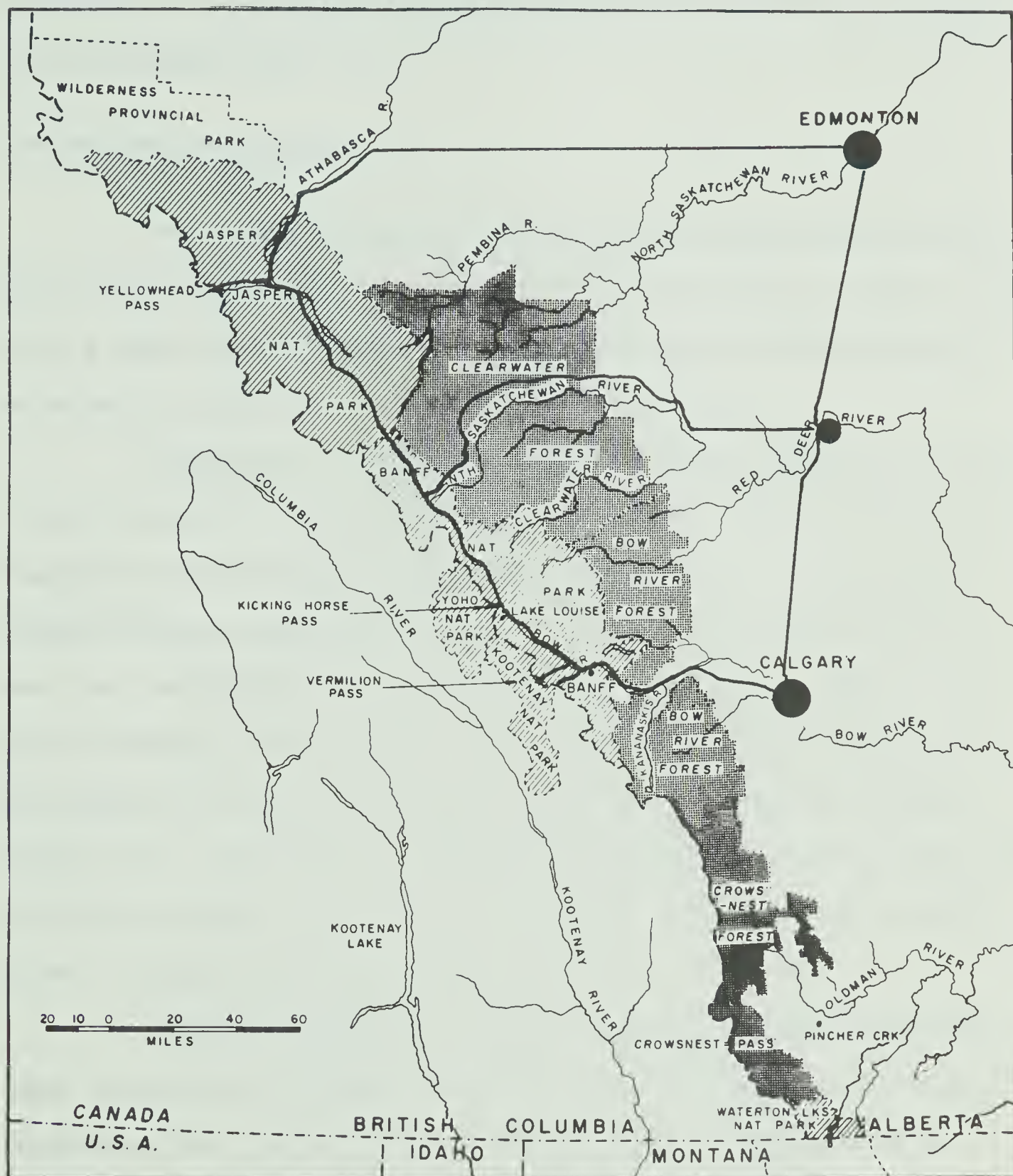
## THE STUDY AREA

Banff National Park is a public reserve subject to federal administration by the National and Historic Parks Branch, Department of Indian Affairs and Northern Development. Lying along the eastern slopes of the Rocky Mountains of Alberta, it is one of seven national parks in the mountain region (Fig. 1). The park encompasses 2,564 square miles and is part of a large area of federal and provincial public land occupying the foothills and mountain area of Alberta.

The western boundary of the park is formed by the continental divide. The eastern entrance to the park is sixty-five miles west of the



# BANFF NATIONAL PARK : LOCATION



After Byrne 1968

Figure 1





city of Calgary which is approximately one hour's drive from the park via the Trans-Canada Highway, which passes through the national park. Other highways also connect the park with Edmonton and Red Deer, so that the population of urban Alberta lies well within the area of day or weekend use of the park (Fig. 1).

## DEFINITIONS AND CONCEPTS

The terminology associated with national parks and recreation is in many cases open to a wide degree of interpretation. There is therefore a need for the clarification of terminology and the definition of some basic concepts, for the purposes of this thesis.

Recreation: Recreation takes place during leisure time and is closely related to leisure though not synonymous with it. Recreation contrasts with work and "the mechanics of life" such as sleeping and eating (Clawson and Knetsch, 1966, p. 6). It follows that recreation must be a voluntary activity and also result in the refreshment of mind or body (Farina, 1962, p. 944). The latter factor can be interpreted in the sense of recreation resulting in pleasure or enjoyment (Brockman, 1959, p. 1). Recreation is distinguished by the attitude with which the activity or planned inactivity is undertaken, rather than the activity itself (Clawson and Knetsch, 1966, pp. 6-7).

Outdoor Recreation: Outdoor recreation is simply recreation that is carried on outdoors. For this study, it comprises all forms of recreation that involve the use, understanding, or enjoyment of the natural environment (Carlson, 1963, p. 82). The park visitor or user can be considered as an outdoor recreationist if he comes to the park for any purpose except to work or to use the routeway provided by the Trans-





Canada highway.

Recreational Activities in the National Park: There are a number of recreational uses which take place in the national park. For the purpose of this study they are placed into two categories, on the basis of their relationship to the park resource and the purpose of the park.

1. Resource-oriented Uses: These are uses based on the natural environment of the park and which are compatible with the maintenance of its quality, for example, wilderness camping.

2. Facilities-oriented Uses: These are not directly related to the resource-base of the park and they conflict with its maintenance in an unimpaired condition. These uses require the construction of permanent structures to facilitate the activity itself, for example downhill skiing, or the use of a machine because it is inherent in the undertaking and enjoyment of the activity, for example power boating and snow-mobiling.

Though the above terms are commonly used with reference to recreational activities in the national park there has been no actual classification of recreational uses into the two categories. The interpretation of a recreation as resource-oriented or facilities-oriented is subjective, and the interpretation assumes many of the author's values concerning national parks and their use.\*

Natural: The use of the term natural is often indiscriminate and is open to a wide range of different interpretations. It can be used in four senses:

---

\*

A value free geography is in any case a myth because in defining problems and interpreting facts geographers become involved with values. (Pahl, 1968, p. 219).



1. A natural area is, strictly, one in which there is no human interference with natural processes.

2. In North America it can refer to an area where the landscape has not been subject to the impact of the white man.

3. Natural refers to an area where there is a recognizable lack of human influences, for example no paved roads or permanent structures.

4. Natural refers to an emphasis in the landscape which differentiates it from the man-made landscape. In this sense it may possess cultural features, but they are limited in extent.

Although the term natural does describe a specific ecological state its definition is a matter of individual perception.

In this study natural refers to the state described in number four, because it is applicable to the national park as a whole.

Wilderness or Wild Area: These terms are used for the conditions described in definitions two and three.

Wilderness: This term requires a certain minimum size to convey the impression of vastness which is a unique requirement of wilderness (ORRRC Study Report 3, p. 21). In this study wilderness is used to describe an area large enough to be unaffected by cultural activities.

Back-Country Use: Back-country use is a term which describes visits to wild or wilderness areas of the national park.

The Resource-base of the national park or the park resource: These terms refer to the total community of plant and animal life together with the form of the landscape (Henderson, 1967, p. 138).

Landscape: This term is used both in terms of describing the surface of the earth alone and also together with the flora and fauna.



The context will indicate the explicit meaning.

## STUDY OBJECTIVES

The core of the study involves a survey of skiers' perceptions of the national park. Specifically this centres on skiers' perceptions of their relationship with the resource base, other land uses, and park objectives. Skiing was chosen as a focus of study for a number of reasons.

1. It is the fastest growing recreational use of the national park (Thorsell, 1968b, p. 8).\*

2. The nature of the activity's basic requirements makes special demands on the park resource. Ski areas, particularly in the case of Sunshine, are located away from areas of intensive use such as townsites and highways. They constitute 'urban' encroachment on the natural character of back-country areas. The requirements of skiing result in landscape alteration, because in addition to activity facilities such as tows, lifts, and slope clearance, access roads, and on-site services are required.

3. The limited season for downhill skiing means that the facilities are unused in the peak period of visitations in summer. The permanent alteration of the landscape does not change, and its effects on others users, particularly those sightseeing are unknown.

4. Skiing is a recreational use for which people visit the park specifically, unlike other facilities-oriented recreation which general visitors take advantage of because it is there. Skiers are therefore amenable to treatment as an homogeneous group.

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\* It is not clear what activities Thorsell includes in recreational use of the national park; for example whether informal activities as sightseeing are considered as such.



## METHODOLOGY

Skiers' perceptions were evaluated by interviews on the basis of a questionnaire. The interviews were conducted during part of the winter of 1969-70. A survey by questionnaire was also undertaken to assess the impact of ski facilities on the summer visitors' view of scenery.

The evaluation of perception is used as both a research tool and an approach to focus on the problems of Banff National Park. Chapter I examines the concept of perception and cites some of its research applications. Conflicts of use and perception in the national park and their amenability to management action are discussed in Chapter II which concludes with a statement that the evaluation of users' perceptions of the park would be an important aid for management decision-making. The problems facing the national park are a historical legacy of the development of a dichotomy in land use and in interpretation of the stated function of the park. This is analysed in Chapter III, while Chapter IV considers another important component in the conflict, the growth in recreational use and demand for the park. The physical impairment that has resulted because of this is described in Chapter V. The use and impairment of the park environment is then related to skiers' perception of it. Chapter VI describes the methodology used and Chapter VII analyses the skiers' perception of their activity and of the national park. This provides a method of assessing the relationship of this group of users to the national park, and of identifying major implications for the park resource and related policy aims. The effect of ski facilities on the summer visitor is considered in Chapter VIII. The major findings of the study and their possible application by park







management are summarized in the Conclusion.



## CHAPTER I

### ENVIRONMENTAL PERCEPTION (IN GEOGRAPHY)

During the past decade there has been a rapid growth in studies on perception of environment. The recent development of the field accounts for the fact that it has no accepted body of theory and lacks a well developed methodology. This latter aspect also stems from the type of problem under investigation (Saarinen, 1969, p. 3). The perceptions which people have of the environment are structured by subjective forces, which are both difficult to articulate and often unconscious.

#### THEORETICAL CONSIDERATIONS

Perception studies have as their basis the concept that a person's interaction with the environment is based on his perception of that environment. As Lowenthal points out "we respond to and affect the environment not directly but through the medium of a personally apprehended milieu" (Lowenthal, 1967, p. 1). Both individuals and societies differ in their responses to any environment (Sonnenfeld, 1967, p. 42). Human utilisation and alteration of the environment is the result of decisions taken on the basis of ideas of what are desirable amongst a limited range of alternative choices which are defined perceptually (Gould, 1967, p. 121). Since theoretically the environment is utilised on the basis of the perceptions people have of it, there is a need to know the ways in which people perceive the environment.

To understand the perceptual process requires an examination of the many facets of human behaviour. The scope of this study and discip-



linery constraints preclude all but a brief and simplistic consideration of the complex processes involved in perception. As White states, perception is related to environment and personality in ways which are not well known (White, 1966, p. 105). The consideration of users' perceptions in this study makes no attempt to analyse how the perception process is influenced. But some theoretical consideration of the nature of the aspects involved is desirable.

No generally accepted definition of perception is available. Perception can refer to specifically sensory processes or can be taken to mean processes involved in cognition. Saarinen takes perception to be concerned with more than just sensory response to environment stimulus. He sees "social perception" concerned "with the effects of social and cultural factors in man's cognitive structuring of his physical and social environment" (Saarinen, 1969, p. 5). In its simplest terms perception can be taken as awareness of both complex environmental phenomena and specific objects. This is the definition used for the purposes of this study.

The nature of the interaction between man and environment and the role of perception can be illustrated by reference to a model (Fig. 2). There is no objective or complete perception of the 'real' or extant phenomena of the environment; instead this is interpreted subjectively as the perceptual environment. The perception process is a complex interaction between the sensory perceptual filter and individual and social characteristics. Sensory response to environmental stimuli is influenced by cognition, which is conditioned by social guides and individual personality and in turn these influence the sensory process. Perception can be influenced by changes in mood and social circumstances and be changed by variability in the environment, for example weather conditions.



# A MODEL OF THE ROLE OF PERCEPTION IN MAN-ENVIRONMENT INTERACTION

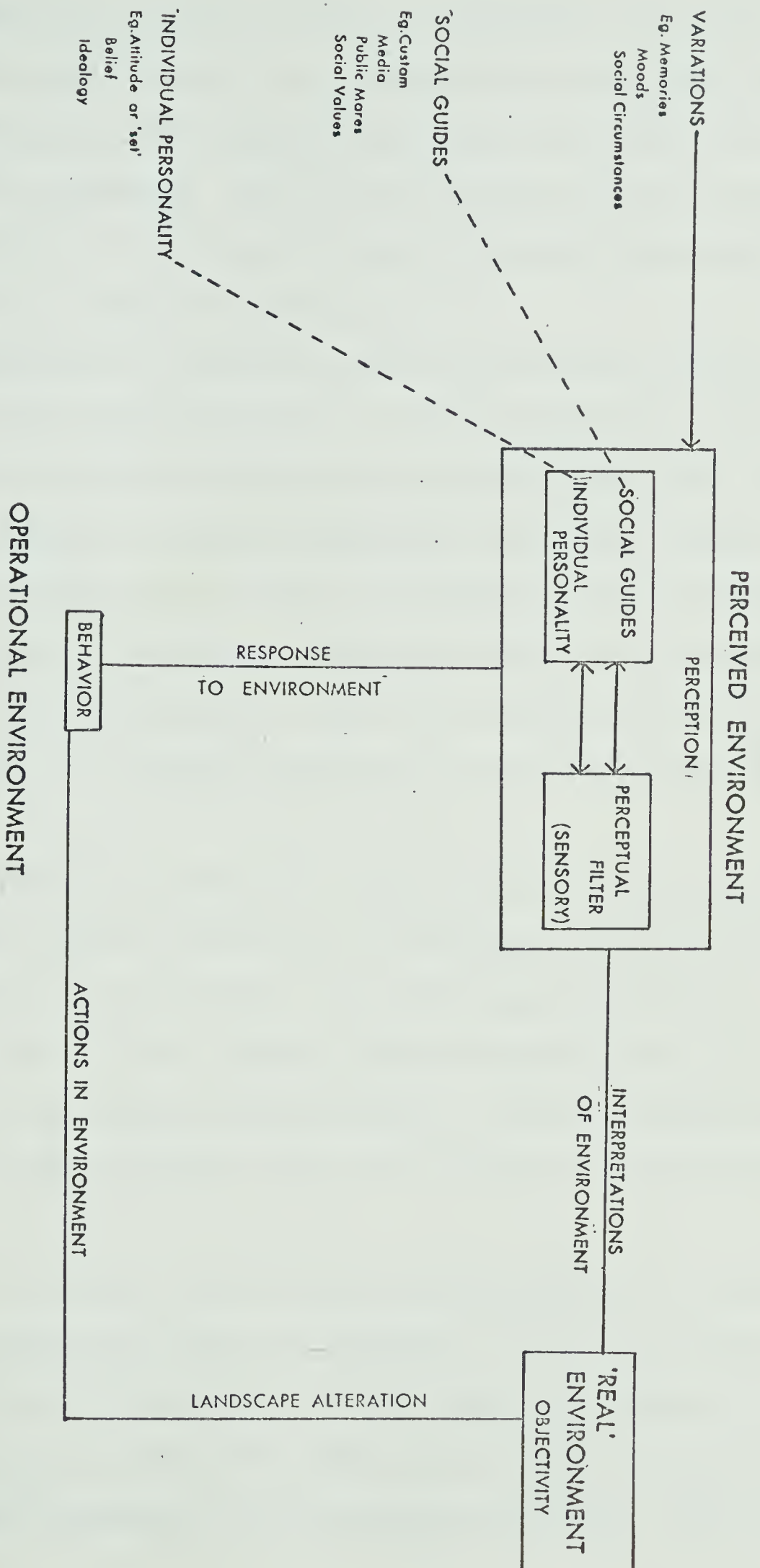


Figure 2





Essentially, the way in which the environment is perceived influences the way people behave in it. Human behaviour patterns in the operational environment have landscape implications and result in the alteration of the environment. This in turn influences the way the environment is perceived. In this sense the man-environment interaction can be conceptualized as a cyclical process (Fig. 2).

Some caution is necessary in evaluating behavioral patterns as a function of environmental perception. Different responses to the environment may be a function of different perceptions but it may also relate to different abilities to respond (Sonnenfeld, 1966). Human response to the physical environment "is a complex multi-faceted and multi-layered affair" and cannot "be adequately understood in terms of a restricted causal chain" (Kates and Wohlwill, 1966, p. 18). Environmental behavior is a field equal in its thematic complexity to that of perception of the environment.

Sonnenfeld has attempted to classify behavior in the environment into four categories; sensitivity to environment, mobility in environment, control over environment, and risk-taking in environment (Sonnenfeld, 1969, p. 138). However, aspects of behavior have to be based on what is perceived in the environment. Perceptual definition of environment is basic to personal and cultural behavior in the operational environment.

One of the major difficulties in using perception as a research tool is the difficulty of measuring perceptions. There are two broad methods of evaluating perceptions, one is to examine the behavior of the individual or group and the choices they make, the other is to use behavioral science techniques to directly measure perception. Both suffer



from a number of drawbacks.

General behavior in the environment is partly determined by a number of constraints and incentives which operate for both the individual and for society, and which make it difficult to evaluate the perceptions behind the choice or choices made. Similarly in ascertaining perceptions by social science techniques the difficulty centres around ascertaining the actual perception that is held. The difficulties of evaluating perceptions by questionnaire and personal interviewing are discussed more fully in Chapter VI. A person's stated perceptions may be compounded of several viewpoints and could be articulated in a number of ways, for example as the opinion that he holds, the opinion he thinks he should have, the opinion he thinks others have and the opinion he thinks the interviewer is trying to elicit. Any one or combination of these may emerge as the stated perception, depending on such factors as the interaction between the interviewer and the interviewee.

Much of the foregoing discussion of the difficulties of measuring perception has centred on the topic of the broad general perception of environment. Most of the studies undertaken by geographers have centred on perception of limited environmental phenomena which, though it suffers from the same problems of measurement, minimises them because of the reduction in the range of alternatives.

Though geographers, by nature and tradition, undertake forays into a variety of disciplines, the complexities of human behavior have not been within their usual range, at least not explicitly. However, as Lowenthal states, the study is "uncommonly earthbound, tied to concrete things that can be seen, heard, smelled or visualized", the images are not real "but they stand for specific sense data, the bedrock, so to speak, of geographical experience" (Lowenthal, 1967, p. 2). Philosophical just-



ification apart, studies of perception of environment are related to traditional geographic concepts.

#### THE PERCEPTION TRADITION IN GEOGRAPHY

Geographical work on perception of environment is an extension of the study of the man-environment interrelationship which has long been an integral part of geography. Consideration of the interaction of man and environment has fostered the concepts of environmental determinism, possibilism, and geography as human ecology. In particular, the present perceptual approach has considerable affinity to human ecology; the interrelationships of man and the physical environment (Dohrs and Sommers, 1967, p. 55). However the precursors of perception limited their examination to the physical environment, and human alteration of and adaption to that environment. That use of the environment with resultant spatial patterns, was dependent on perceptual interpretation by individuals and societies was not previously a matter of concern to geographers.

Even so, this idea is implicit in earlier geographic concepts, in particular "cultural appraisal" and "regional consciousness" and the related "distinctive quality of place" (Saarinen, 1969, p. 2). The idea that regional consciousness and the distinctive quality of place could be evoked and described indicates an aspect of perception of environment, conscious or unconscious.

The term "cultural appraisal" indicates an awareness of the importance of differing perceptions of environment as expressed by different culture groups utilizing a similar environment in variable ways (Spoehr, 1956). Cultural appraisal was usually a very general study of cultures





distant in time and space and was usually undertaken by inference from resource use patterns (Saarinen, 1969, p. 2). This can be differentiated from the present focus which centres directly on how people perceive their environment by using behavioral measuring techniques.

## PERCEPTION STUDIES

The present studies of perception of environment can be classified in a number of ways. The method used by Clayton is utilised here. Clayton classified such studies into theoretical/philosophical and practical divisions (Clayton, 1968, p. 24). This serves as a convenient framework for discussion rather than as a rigorous classification system.

### a. Theoretical/Philosophical Studies

The earliest methodological discussion in geography along the lines of present concepts of perception was that by Kirk. Kirk's ideas were first published in 1951 and were more fully presented in 1963 in a paper on "Problems of Geography" (Kirk, 1963). Kirk stated that only parts of the man-made and natural phenomena that compose the 'real' or "Phenomenal Environment" are arranged into the spatial patterns of the "Geographical Environment". They become part of the "Geographical Environment" only after being interpreted by the "Behavioral Environment" (Kirk, 1963, p. 367). Kirk's "Behavioral Environment" is a "psycho-physical field in which phenomenal facts are arranged into patterns or structures and acquire values in cultural contacts" (Kirk, 1963, p. 366). Kirk's paper emphasized that extant facts or phenomena of the environment were utilised only after passing through the subjective cultural filter associated with the values of individuals and society, i.e. as in the





model (Fig. 2).

The subjectivity of human use of the environment had been anticipated by Wright in 1946, though not as explicitly (Wright, 1946). Wright's paper was concerned with the place of imagination in geography and stressed the subjectivity involved in geographical interpretation. His terrae incognitae were the psychological processes involved in interpreting environmental facts. In 1961 Lowenthal, in a major philosophical work, demonstrated the significance of perception in explaining human interpretation of the environment. Lowenthal suggested that "private milieus do diverge markedly among people in different cultures, for individuals within a social group and for the same person as child and adult, at various times and places and in sundry moods" (Lowenthal, 1961, p. 82). He considered the wide range of factors involved in personal and private geographies and stressed the subjective nature of perception of environment.

The emphasis in these philosophical studies was on their suggestiveness rather than on their application. They underlined the subjectivity of both man's use and study of the environment. The subjectivity involved in a geographical perspective was also emphasized by Y.F. Tuan and H. C. Prince in appeals for a more artistic approach to Geography (Tuan, 1961; Prince, 1962). Prince noted that "the relevance, importance, and meaning of the phenomena is not to be measured by one universally accepted standard" (Prince, 1962, p. 25). This train of thought is the rationale behind a number of practical studies.

#### b. Practical Studies

Practical studies of perception of environment fall into a number of fields. Studies of perception of natural hazards are the most



extensive and well organized field involving perception. These studies have focused on areas of natural hazards and the occupant's perception of the hazard and their adaption and adjustment to it. In particular, variations of perception and behavior have been studied in reaction to the flood hazard (Kates 1962; White, 1964). Their emphasis on the occupancy of flood plains has been extended to wider aspects of perception of natural hazard (Burton, Kates and White, 1968).

Saarinen investigated how farmers perceive and adapt to the drought hazard on the Great Plains (Saarinen, 1966). Burton and Kates point out that variations in hazard perception tend to diminish over time because those who are unwilling or unable to make the adjustment depart or are eliminated (Burton and Kates, 1964, p. 437). Those who perceive the hazard but do not make the necessary adjustment of adaption are an example of the dichotomy that often exists between environmental perceptions and behavior. Yi-Fu Tuan has illustrated the discrepancies between man's attitude towards the environment and his behavior in it (Tuan, 1968).

Burton and Kates suspect that divergences in perception are related to basic attitudes towards nature (Burton and Kates, 1964, p. 435). In addition to the difficulty of measuring contemporary attitude, studies of the history of changing ideas and attitudes towards the earth have stressed their changeability (Glacken, 1956).

Another dimension to perception is provided by the relationship of preconceived ideas to perception of environment. The influence of preconceived ideas or stereotypes on perception was indicated by Haddon's study (Haddon, 1960). This study presented the consensus of impressions of English teenage students on foreign lands and peoples. The stereotypes they had were recognizable but in many cases, hardly correct; the youth of



America were "oddly garbed, criminally inclined young men travelling at great speed in monstrous cars" (Haddon, 1960, p. 286).

Most of the studies in urban perception have followed Lynch's work. Lynch studied the mental images people had of the city and its perceptual organization into patterns and modes (Lynch, 1960). These ideas have been the basis for later work dealing with perception of the aesthetics of highways (Appleyard, Lynch and Myer, 1967).

#### c. Perception and Resource Management

The use and conservation of natural resources is a field in which the perceptual approach has a number of present applications. As Fisher points out, natural resources are conserved and managed for people (Fisher, 1966, p. 1). Both people's definition and response to resources and the management of them involve questions of perception.

The majority of studies on perception and resource management follow the approach delineated by White in 1961. White's framework is discussed in Chapter II with reference to management of the park resource. White pointed out that the variation between the theoretical and practical range of choices which might be applied to an environment was a result of the perception of the resource manager (White, 1961). Firey in his theory of resource use also stated the important role of perception within given economic and physical constraints (Firey, 1960).

#### d. Perception and Recreational Resources

In recent years there have been a number of studies of recreation resources and their use and management involving the application of the perceptual approach. Such studies of recreation resources are based





on "the concept of resources as cultural perceptions" (Lucas and Priddle, 1964, p. 428). This is of particular importance for recreational scenic and amenity resources "because of the internal, personal and subjective way such resources are used" (Lucas, 1964a, p. 411). Lucas used the concept to delineate differing wilderness areas on the basis of the different perceptions of recreationists using a canoe area (Lucas, 1964a). This study illustrated a need for more knowledge of users' perceptions in evaluating alternative choices for a recreational resource. The importance of user-concepts of resources is further elaborated by Lucas when he suggests that management, researchers and others have made conscious and unconscious assumptions about user's concepts and perceptions in defining and managing resources (Lucas, 1964b, p. 29).

Recreational resource policy has often been considered a matter of opinion and conjecture, and of being less capable of being guided by science than other conservation activities. Lucas (1966, pp. 116-117) suggests that this approach can be changed in view of the contributions that social or behavioral studies have to offer. This line of study was advanced by Baumann's examination of the differing regional views concerning recreational policy (Baumann, 1969).

Perception studies may make a valuable contribution to the management of recreational resources. In certain areas such as the maintenance of quality there are no alternatives to perceptual identification of goals. This is also indispensable in the field of scenic beauty and landscape attraction. These elements are an integral part of the reasons behind much of the visitation to the national park.

#### e. Perceptions of Landscape Quality and Scenic Beauty

The abstract nature of scenic beauty and landscape attraction





makes its definition and evaluation heavily dependent on perceptual definition. Visitor enjoyment of a scenic attraction "is an emotional response to a subtle blend of qualities perceived and appreciated" (Weddle, 1969, p. 387). The nature of scenic beauty has meant that in the past the evaluation of an attractive landscape has been highly subjective.<sup>1</sup> Visual quality in the landscape and scenic beauty have been the reference point for the poet and artist rather than for the social scientist.

Recently there has been a growing number of attempts to develop more objective measures of scenic attraction. Fines' evaluation of the East Sussex landscape, which was made on the basis of a graded hierarchy of categories, was one of the first works in the field (Fines, 1968). Fines' study considered the landscape as a whole whereas other approaches have tried to identify specific components of attraction in the landscape (Schafer, Hamilton, Schmit, 1969). Related studies have attempted in some way to quantify aesthetics. Leopold's study attempted to assign numerical values for various components of river valley sites and compare their aesthetic appeal (Leopold, 1969). Human responses and preferences for various landscapes and landscape components have been the subject of study through experiments involving photographs (Peterson and Neumann, 1969). Predictably, in view of the nature of the subject, the above studies are open to a variety of criticism. In addition, the infancy of the field of evaluating scenic beauty and human response to it is such that no generalisations can yet be made and no accepted methodology is present.

Human response and preference for scenic landscape may also be evaluated in terms of patterns of behavior. Within geographic constraints,

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<sup>1</sup> For a partial history of landscape evaluation see Clarke (1968).



people's use of various scenic areas is often the most reliable guide to criteria of scenic beauty. The mounting visitor pressure on national parks can be considered as evidence that the natural environment they preserve is aesthetically attractive. However, Lowenthal cautions the view of natural and wilderness landscapes as the basic criterion of scenic beauty. He is of the opinion that the city dweller "seldom distinguishes the pastoral from the wild" and find "lived in landscapes more attractive than wild ones" (Lowenthal, 1962-63, p. 20). If this is true it may have important implications for the preservation of natural areas.



## CHAPTER II

### PROBLEMS OF USE AND PERCEPTION

#### IN BANFF NATIONAL PARK

Banff National Park can be considered as a resource which is managed in broad conformity with a nationally defined policy. The main objective of the National Park System is stated in the following way:

"The basic purpose of the National Parks System is to preserve for all time areas which contain significant geographical, geological, biological or historic features as a natural heritage for the benefit, education and enjoyment of the people of Canada." (Canada, Department of Indian Affairs and Northern Development\*, undated, p. 4).

The basic purpose of the parks is clearly indicated as the preservation of a natural area. However, the extent and type of uses allowed in them in accordance with the premise that the parks are for people's benefit, varies widely in practice.

The premise that parks are for people's benefit has led to the incorporation of a wide range of recreational uses within Banff National Park. Many of the present developments associated with recreational use raise the question of the degree to which they are compatible with the park's preservation purpose. Though this is emphasized as the basic purpose of the national park, certain "secondary uses" are permitted provided their impairment is minimal. "They are not permitted at all if substantial impairment is inevitable" (Canada, I.A.N.D., undated, p. 4).

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\* Hereafter referred to as I.A.N.D.



Unfortunately the policy does not define explicitly what constitutes legitimate secondary use or substantial impairment. The question of which uses the park should undertake is therefore not clear.

The ambiguity of parks policy has led to Banff National Park incorporating multiple recreational uses into what is basically defined as a single purpose area (Canada, I.A.N.D., undated, p. 4). This has posed a number of problems of land use conflict. These are manifested on several levels but have a common focus on the conflict between preservation and the development of recreational facilities. The increase in facilities, which is related to the rapid growth of park visitation, threatens to impair the natural landscape the park is designed to preserve.

A strict interpretation of the preservation purpose of the park would preclude any use of it. However, it is generally accepted that the national park is for people's benefit and use. It is the uncritical acceptance of the view which poses problems for the national park. If it is accepted that national parks are unique and irreplaceable areas set aside for preserving a natural landscape then all other uses must be planned accordingly (Dasmann, 1969, pp. 288-289). Ideally the park should not be used for any purpose not related to its resource base (Eichorn, 1966, p. 341).

In Banff National Park the uses and types of visitation which are not compatible with the preservation purpose partially stem from a wider problem of the general imbalance between the supply of recreational areas and the growing demands on them. Lacking a clear definition of legitimate use the park is meeting a number of demands it is not designed to meet and should not undertake (Chrétien, 1969, p. 11).





Certain types of use in the park are resource-oriented and can be satisfactorily accommodated. It is the incursion of a growing number of people demanding the increased development of recreational facilities and urban-type services that present problems of maintaining the quality of the park resource. The presence of Banff Townsite and its surroundings present a climax of recreational facilities, including golf, tennis, and power boating, which are unconnected with the purpose of the park. The Townsite has been a long established recreation area, but in the post-war period the extension of the road network and the development of ski-resorts in the park has meant facilities-oriented recreation has encroached on more natural areas.

These activities have caused a number of changes in the landscape of Banff National Park and these promise to be even more extensive in the future (Nelson, 1969, p. 113). The presence of recreational activities are a legacy of the historical development of the park. The recreational function was one of the bases of the establishment of the natural park. The dichotomy between preservation and the development of recreational facilities is not a modern one, but its existence as a problem is recent. The problem only became apparent with the rise in visitation to the park after 1950. Before the mid-1950's parks were advertised and promoted to encourage visits, and the preservation function was secondary to the development of the park as a tourist resort and general recreation area. The growing awareness of the park as a natural preserve, of value in itself, was paralleled by a growth in park use and recreational facilities development which threatened to negate preservation.

People and their perception and interpretation of the park are



an integral element in the conflict between preservation and development. The national park partially reflects the interests of users and agencies, who, in the light of their own perceptions, exert pressure for particular uses and developments. Broadly, the agencies lobbying management can be divided into developers and conservationists. The existence of those various agencies aggravates the problem of land use conflict.

A model is used to summarise the key elements in the present conflict between development and preservation in the national park (Fig. 3). The increasing recreational use of the national park generates conflicts between both land uses and agencies (Fig. 3). With the development of problems of interpretation and use in the national park, comes the requirement for management decisions to alleviate conflicts and maintain the quality of the national park.

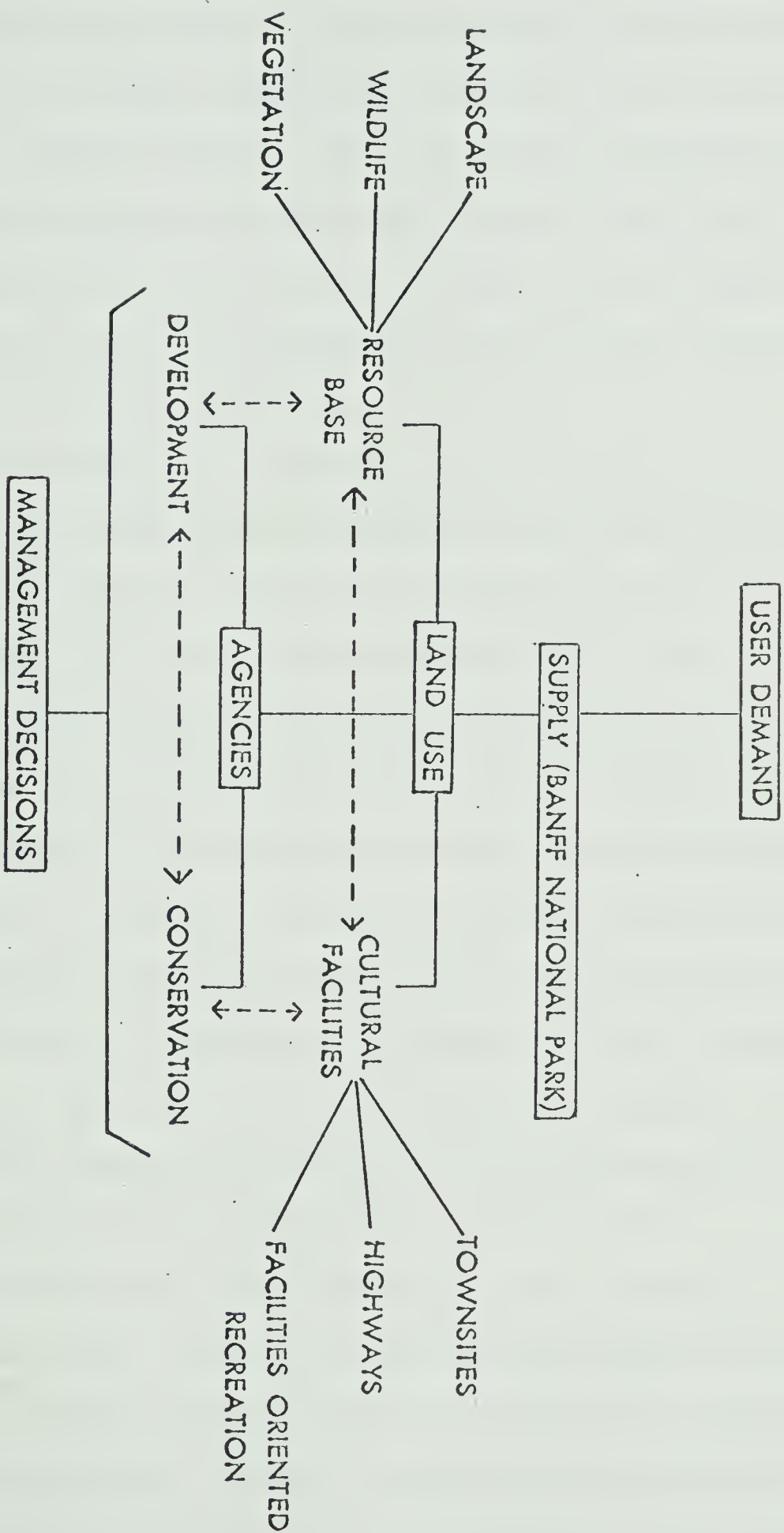
#### THE NEED FOR MANAGEMENT DECISIONS TO MAINTAIN PARK QUALITY

Management decisions to alleviate land use conflicts are necessary if the quality of the resource is to be maintained. The quantitative nature of the demands on the national park are fairly well understood, even if they are not readily managed. Their qualitative impact on the park is only vaguely perceived (Oberlander, 1969, p. 297). The dangers Banff National Park faces are similar to those of some U.S. Parks, where impairment is so extensive that they have been described as "slums" (Darling and Eichhorn, 1967, p. 34). The addition of increasing number of recreational facilities and urban-type developments to accommodate the demands of visitors provides the basis for the decline in park quality.

The biggest cause of a decline in quality comes from piecemeal attrition by a series of small additions and compromises, each one being



# A MODEL OF THE MAIN ELEMENTS IN THE NATIONAL PARKS CONFLICT



←---→ Conflict

Figure 3



insignificant in itself and going unnoticed until the park ceases to be a national park except in name (Henderson, 1969, p. 894). Banff, like some United States National Parks, has probably already reached the point where it can no longer accommodate everyone who uses it and still remain unchanged (Eichhorn, 1966, p. 340). This means management must examine some long held assumptions about the National Parks, firstly, that visitation capacity is limitless, and secondly, whether facilities-oriented recreational uses can be accommodated without seriously impairing parks quality and negating policy aims.

The limitation of park visits by a system such as advance reservation is already seen by the National Park Administration as probably necessary if parks are to remain substantially unaltered (Edmonton Journal, January 24, 1970, p. 51). As the capacity of the park for visitors is related to the existence of recreational use and facilities in the park, there seems to be good reason to eliminate the recreational uses and development which are incompatible with preserving the natural qualities of the park. According to Darling and Eichhorn compatible uses would involve no general impairment of the park, thus enabling the perpetuation of natural biological communities and expanses of natural scenery (Darling and Eichhorn, 1967, p. 16). This is becoming the policy in the United States where emphasis is being placed on the compatibility of people and uses with the national park (Brandborg, 1969, p. 639).

On the other hand there can be no set of absolute standards for defining park uses. There is a need for some flexibility based on full knowledge in making land use decisions, to allow for legitimate enjoyment of the national park. For this a minimum of roads and services are required for those people who do not or can not use hiking trails. The vast





majority of park users do not use the wild areas of the park, but the physical and aesthetic qualities of these areas may still penetrate their consciousness and allow them to experience the quality that the park was designed to provide (Olson, 1969, p. 17).

To make enjoyment of the park possible some impairment of the natural landscape is inevitable. However, the objective of providing optimum use and enjoyment of the park while maintaining its natural character is not aided by the existence of facilities-oriented recreation. This is not dependent on the intrinsic qualities of the park resource for a satisfactory experience and can be considered an unnecessary impairment. The park management is handicapped in alleviating this problem because of factors beyond their control and the inherent difficulties in managing a resource to retain its quality.

#### PROBLEMS INVOLVED WITH MANAGEMENT DECISION MAKING

In alleviating land use conflicts the park management is handicapped by the lack of an operational definition giving clear guidelines for decision-making. In addition management is faced with problems that it has no power to influence. The national park is required to meet demands that result as much from the inadequacies of other recreational areas as they do from the quality of the park itself. The national parks administration cannot deal with the overall system of recreational resources and its relationship to demand.

In addition there are inherent difficulties in managing the park resource itself. Problems involving the maintenance of resource quality differ from those of quantity of resource use in that they are broader and more open-ended. They therefore affect peoples ways of coping with



them (Resources For the Future, 1966; p. 17). The problem of management decisions to alleviate conflicts is intensified by the prominence of "subjective personal elements and the severe limitations of technological engineering" (Lucas, 1966, p. 119).

Management decisions are dependent on an awareness of the alternatives involved in making a choice. Theoretically a decision in resource management involves a choice among a large number of alternatives. However, the practical range of choice is shaped by the social environment and the actual selection depends on management perception of these elements (White, 1961, p. 26). Management perceptions are affected by both the degree of awareness of choices and the values the social environment places on these (Baumann, 1969, p. 8 ).

The values that the social environment places on national parks can be regarded as those embodied in present national parks policy. That parks policy is ambiguous has been noted, but the emphasis on preservation is clear enough. The degree of awareness of management concerning choices open to them in maintaining parks quality is conditioned largely by their knowledge of the components involved. This would generally include the park resource base, its users, and the nature of their interaction with the park and with each other. At present there is a lack of knowledge concerning all of these components.

At present management decisions to maintain park quality are based on perceptions of the situation which incorporate assumptions concerning the park resource, its users, and their relationships. Unexamined assumptions are unlikely to provide a satisfactory basis for decisions that may have concrete effects on the landscape. Management decisions should be based on the fullest knowledge possible. The present lack of



such knowledge suggests some research needs to aid management decision-making.

#### A METHOD OF ALLEVIATING THE PROBLEM BY RESEARCH: A FOCUS ON THE USER

National park research needs should be determined by the knowledge required for management decision-making (Lucas, 1969, p. 905). Research priorities can be determined by examining the most serious problem facing the national park at present. The foregoing analysis suggests that this is the conflict between facilities-oriented recreation and the preservation of a natural landscape.

In evaluating the relationship of facilities-oriented recreation with the park resource, relevant research can centre on two broad approaches, the physical, and the human. Physical and ecological indices of impairment, which are at present lacking, would be particularly useful aid for management. However, physical and ecological impairment can be only assessed by human perception. The impairment of the national park environment becomes a reality only when it is perceived to be so.

The national park is preserved for people, who give the park its very definition. Apart from people, ideas about the values and capacities of the resource cannot even be expressed (Fisher, 1966, p. 1). It is clear, also, that problems associated with resources are characteristic of the people who use them (Stoltenberg, 1966, p. 153). Management handling of the problem of land use conflict in the national park would involve actions towards the people who use the park. This calls for a knowledge of users and their relationship with the national park. This is at present lacking and research is needed on user perception of the national park.

Variations in the use of the resource is explicable in terms of



variations in users' perceptions (Burton and Kates, 1964, p. 439). An evaluation of visitor perceptions and the components interrelated with it such as knowledge, opinion, and preference can be used to assess the interaction they have with the national park resource. Such an analysis could provide a guideline for management action. But it should be noted that user perceptions are not a direct prescription for management but must be analysed in the context of park objectives (Lucas, 1966, p. 121). Their importance lies in the fact that they can facilitate management choices based on an increased awareness of alternatives.





### CHAPTER III

#### THE DEVELOPMENT OF CONFLICTS OF USE AND PERCEPTION

##### IN BANFF NATIONAL PARK

The present problem of development and use is an inheritance from the historical development of the national park. In assessing the relationship of recreational use and preservation, and in clarifying the present situation, the historical perspective is a necessity.

The historical development of the national park is related to the changing management policies which have been applied to it. Management policies have in turn been responsive to changing perceptions and ideas of the national park and its function. This chapter describes the development of land uses in the park, and seeks to relate changes in function with the evolution of perceptions and ideas of the national park. In addition the general affects of these changes on the park resource are briefly assessed.

The history of Banff National Park can be divided into three main periods: 1887 to 1911, 1911 to 1945, and the post-1945 period. Before considering these, the reasons for the establishment of the national park are evaluated.

#### THE ESTABLISHMENT OF THE NATIONAL PARK

The national park was established as a consequence of the building of the Canadian Pacific Railway (C.P.R.). Before the railway's arrival in 1883 the area had been subject to temporary occupance by explorers, missionaries, fur traders, and prospectors. Though these



people had already altered the aboriginal landscape it became subject to more substantial modification with the exploitation of local minerals and timber (Byrne, 1968). Several small settlements were also established, including Silver City, a copper mining settlement which lasted from 1883 to 1886, and the coal mining community of Anthracite which was established in 1886 (Fig. 4).

The early development of the area was based on the presence of the C.P.R.. The company was also instrumental in securing the initial public reservation of the area and its later expansion into a national park. The C.P.R. was interested in such areas being reserved along its railroad line to make its operation more profitable in the sparsely populated mountains. In 1883 C.P.R. attempts to reserve the Lac des Arcs failed but two years later the presence of the mineral springs on Sulphur Mountain led to the first park reservation (Van Kirk, 1969, pp. 10-11) (Figs. 4 and 5).

Though C.P.R. interest and promotion was of paramount importance, the actual reservation was made in response to attempts to acquire and exploit the commercial potential of the springs (Pearce, 1962). In November 1885 the Hot Springs Reserve, a ten square mile area on Sulphur Mountain, was established. The original intention for the reserve was the development of a spa resort (Scace, 1968, p. 29). This intention was never fully implemented, for in June 1887 the reserve was incorporated into Rocky Mountains National Park. The 260 square mile rectangular area became Canada's first national park (Figs. 4 and 5).

The establishment of the park was apparently the result of a survey report by G. A. Stewart which stated that the area surrounding the Hot Springs reserve possessed outstanding scenery. This led to the area



CULTURAL ACTIVITY IN THE NATIONAL PARK AREA 1883-1911

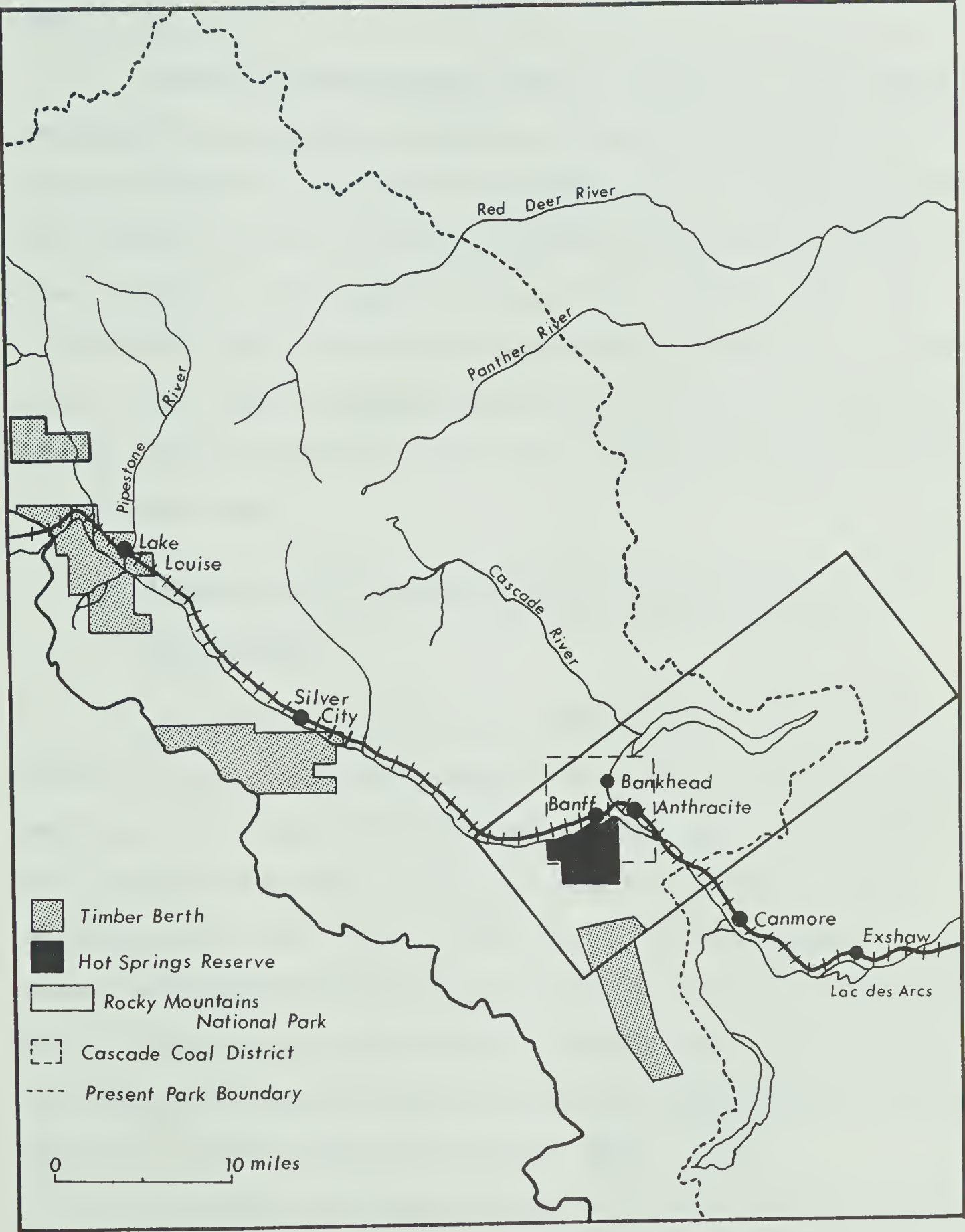


Figure 4



being extended (Byrne, 1968, p. 134). However, Pearce has stressed that without the interest of the C.P.R., efforts to reserve the area "would not have been anything like as successful as they have" (Pearce, 1962, p. 10).

Rocky Mountains National Park was created as a "public park and pleasuring ground for the benefit, advantage and enjoyment of the people of Canada" (Cited by Van Kirk, 1969, p. 20). Clauses in the act also provided for the continuance of economic activity and the protection of wildlife and vegetation (Cited in Byrne, 1968, p. 136). The inclusion of a number of purposes indicates the park was to be a multi-purpose area. This was in accordance with the views of the period concerning natural resources and their uses, and on which ideas concerning the park were based.

a. Perceptions of the National Park at the Time of its Establishment

The inclusion of protective clauses did not reflect any preservation intent for the national park. The resources on which the park was based, hot springs and scenic landscape, were perceived as exploitable entities and similar in this respect to the mineral and timber resources of the area. Though mining and logging were subject to regulation, they continued in the park and were not perceived as incompatible with it. The multiple uses of the park indicate that it was perceived as a composite of natural resources, capable of exploitation and development into a useful economic asset (Brown, 1969, p. 108).

Its main purpose was to develop as a tourist resort, and any protection undertaken was simply to facilitate this purpose. There was







no indication of any attempts to preserve a wilderness or natural landscape.

In the United States the establishment of the first national park at Yellowstone is seen by Bartlett as having roots in the early conservationist pleas of Thoreau, Catlin and others (Bartlett, 1969, pp. 10-11). There are no such discernible roots in the establishment of Canada's first national park. The motives behind its establishment were economic, as the course of its early development indicates.

#### THE DEVELOPMENT PERIOD, 1887 - 1911

In this early period the park was a multi-purpose area in which economic activity and recreational use were actively promoted to justify the financial outlay involved in establishing the park. The success of this policy was reflected in the growth of tourism, which led in 1902 to an increase in the size of the park. The relatively unregulated development of both economic and recreational uses led to marked environmental alteration of areas in the park. This ended about 1909 with the rise of the conservation movement in Canada. The movement was also responsible for changes in the perception of the park and the beginning of a new policy and function for the park.

##### a. Land Uses in the Park

In this period both the government and the C.P.R. "plunged into an energetic programme which offered the parks as the main Canadian tourist attraction" (Reeve, 1962, p. 9). Developments centred mainly on the townsite and its surroundings, with the aims of developing an exclusive and fashionable spa (Scace, 1968, p. 45). Early activity included



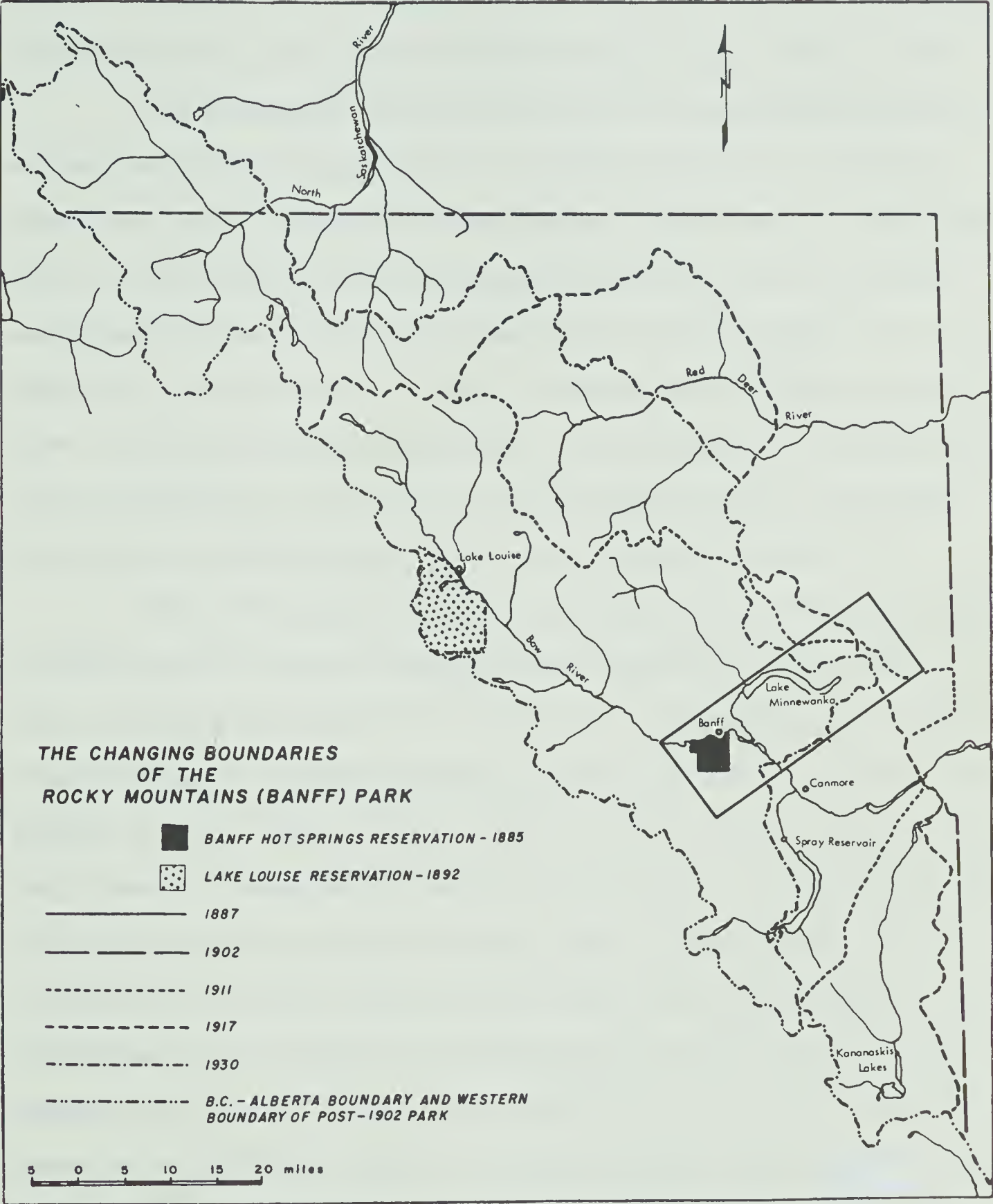
the building of Banff Springs Hotel and other luxury accomodation, by the C.P.R., and the construction of a number of facilities in the Hot Springs area.

A coach road network to provide for tourist travel by horse drawn carriages, was constructed around Banff townsite and Lake Louise. By 1911 there were ninety-six miles of graded road. The vegetation in these areas, however, had been subjected to such abuse that landscape "improvements" had to be undertaken to make the drives more attractive for tourists. A number of recreational and entertainment facilities were provided in the townsite area; including a dance pavilion, a boat house, an animal paddock, a zoo, and a museum. The provision of municipal services to the townsite complemented more direct tourist promotion (Scace, 1968, pp. 41-42).

During this period resource-based recreational activity such as climbing and pack-trips also developed. This type of activity was further facilitated when in 1902 the park boundaries were extended to encompass an area of 4,900 square miles (Fig. 5). The extension occurred because of the increase in park visitation which had resulted from the tourist promotion policies of the government and the C.P.R.. With the extension the park now included large areas of wilderness in addition to recreational and economic activities.

The boundary change incorporated the Lake Louise reserve, which had been first designated a park in 1892 following C.P.R. interest in the area around Lake Louise railway station (Fig. 5). By 1893 tourists had visited the area and the following year a waggon road and a lakeshore chalet had been built (Wilcox, 1896, pp. 49-50). Tourist development continued through the period but was insignificant compared to the rapid





After Byrne

Figure 5



growth of Banff townsite. Following the extension of the area of the park and its continued promotion Banff outgrew its function as a spa resort. By 1911 it had developed a multi-functional role as spa, administrative, service, rail and recreational centre (Scace, 1968, p. 63).

The enlargement of the park had also incorporated additional economic activities into the park. The mining settlement of Canmore joined the town of Anthracite in the national park (Fig. 4). Two years later in 1904 Anthracite was abandoned as uneconomic, but its decline coincided with the opening of a larger mine at Bankhead (Fig. 4). Located four miles north-east of Banff, Bankhead was the first mine developed within existing park boundaries. The development of Bankhead was the responsibility of the C.P.R. and the company was also instrumental in locating the Exshaw Cement Works on the Lac des Arcs (Fig. 4).

The 1902 boundary extension included an extra 360 square miles of timber berths which were being actively logged (Van Kirk, 1969, p. 134). Lumbering and industrial activity were responsible for a "drastic transformation of the local landscape and the creation of some very un-parklike scenery" (Byrne, 1968, p. 119). This was mainly caused by the large number of fires which occurred in this period. By 1910 many areas of the park were characterized by dead timber and deforested ground or by young fire-following lodge-pole pine (Nelson and Byrne, 1966, p. 230). The destruction of vegetation in this period was paralleled by a rapid decrease in wildlife. Despite the prohibition of hunting in 1890 Banff served as an outfitting centre for hunting parties. The neglect of protection clauses lay partly in the lack of money available but also because after 1902 there was the difficulty of policing such an extensive area. However, the nonenforcement of protective clauses also reflects







a deliberate management choice, for effective protection did not develop until the rise of the conservation movement.

The growth of the conservation movement led to the establishment of the Conservation Committee in 1909 and the Rocky Mountain Forest Reserve. The reserve, encompassing some 17,900 square miles of the eastern slopes of the Rockies, included the national park, and provided for increased forest protection. The same year stringent hunting regulations were instituted in the park. The following year effective protection began when financial appropriations increased and game and fire wardens were appointed.

The undertaking of more effective protection measures had an additional consequence, namely the reduction of the park from 4,900 square miles to 1,800 square miles in 1911 (see Fig. 5). The park area encompassed the watershed of the Bow River Valley and was more amenable to the efficient management which the conservation movement and changes in administration demanded.

#### b. National Park Administration and Policy

The development of policy, administration, and management had occurred on a piecemeal basis throughout most of the period. The ideals of the national park were not explicit and its aims diverse. It is not surprising therefore, that "policy had to be gradually evolved" (Harkin, 1924, p. 95). The lack of a coherent policy was also fostered by a lack of finance which meant a small and decentralized administration. This meant that the interpretation and enforcement of regulations was left almost solely in the hands of the Park Superintendent at Banff (Van Kirk, 1969, p. 37).



The appointment of Howard Douglas as Commissioner of Dominion Parks in 1908 marked the start of administrative centralization. This culminated in the creation of a separate national parks branch in 1911 within the Department of the Interior. The Superintendent at Banff, though he had control of a growing staff, was now responsible to a Chief Superintendent at Edmonton and the Commissioner at Ottawa. The fact that the policies and management of Rocky Mountain Park were no longer in local hands lead to the development of a more coherent policy, which was in line with changing perceptions and ideas of the park and its functions.

c. Perceptions of the National Park

The perception of the national park as a composite of resources capable of various exploitation prevailed for much of this period. This view was the basis of the policy of virtually unregulated development which promoted economic and recreational activity at the expense of any protective intent. Though the aims and developments in this period were incompatible when viewed with hindsight, it is doubtful if any conflict was seen at the time. Natural resources were perceived as separate entities and unrelated to each other.

Because of this, it is not surprising that Howard Douglas, the Park Superintendent, viewed Bankhead as an addition "to the many and varied attractions of the neighbourhood" and stated "it had already become a popular stopping place for tourists" (Cited by Byrne, 1968, p. 119). The later opening of the Exshaw cement works was viewed by Douglas as increasing "the industrial assets of the park" (Cited by Byrne, 1968, p. 123).



The rise of the conservation movement in Canada was responsible for a change in perceptions of use of resources and the national park. The movement in Canada was concerned only with the more rational use of natural resources. Its importance for the national park lay in the realization of the interrelated nature of resource use, that the exploitation of one resource affected the whole environment (Brown, 1969, p. 103). This ended the virtually unregulated exploitation of natural resources. The following period was characterised by a growing protection of the park landscape.

The development of protection was designed to facilitate the park's obvious recreational function rather than the beginnings of preservation of wilderness. Unlike the United States, Canada had no controversy between the use and preservation schools of the conservation movement. American concern for the preservation of wilderness, beginning in the 1890's, was clearly evident by 1913 (Nash, 1969, p. 76). Preservation concern was undoubtedly fostered by the closing of the American frontier, and national parks were viewed as the ideal means of preserving a natural landscape. In Canada, the frontier was still open, and with the continued existence of wilderness no one saw the need for preservation.

In this light the protection in Rocky Mountains Park must be considered as the wise utilisation of natural resources which was mainly undertaken to facilitate the development of tourism. The events of the period 1911-1945, and particularly those at the beginning of this period, support this view.



## THE GROWTH OF TOURISM AND PROTECTION, 1911 - 1945

During this period the park moved from being a multi-purpose to a dual purpose area. There developed an increasing policy of protecting the landscape which was paralleled by the continued development of the national park as a tourist and recreational area. The latter function was particularly focussed on Banff townsite. The development of protection and recreation led to these purposes being embodied in the National Parks Act of 1930. This Act also renamed the park as Banff National Park and redrew the park boundaries excluding most of the economic activity.

a. Land Uses in the Park

In the early part of this period visitation to the national park changed markedly with transport developments and the growth of regional population. The development of road communications had begun in 1907 with the building of the Banff-Calgary coach road. Following pressure from Calgary motorists, automobiles were allowed into the park in 1911 and by 1915 all roads which were suitable to motor traffic were open. The arrival of automobiles in the park led to the rebuilding of old and the development of new roads. In this period roads connecting Banff with Radium, Yoho, and Jasper were completed in addition to the extension of local roads. The building of a road network had a number of important effects, one of which was that a growing regional population had improved access to the park. However, even before a road communications were established the C.P.R. was operating Rail Excursions between Calgary and Banff. These "weekend specials from Calgary" began







as early as 1910 (Crag and Canyon, May 3, 1935, p. 10).

With the development of transport and the influx of regional visitors, the age of exclusiveness, which was dependent on the C.P.R.'s transport monopoly, was over. In response to the changing nature and type of visitation an increased number of recreational activities and facilities were developed in Banff townsite. The developments were assisted by the tourist promotion policies of a number of agencies, including the government, the C.P.R., and the residents of Banff and Calgary. Because of these factors Banff townsite emerged as a major resort offering a wide range of tourist activities "more or less independent of the national park in which it was situated" (Scace, 1968, p. 122).

b. Recreational and Tourist Developments

Tourism grew rapidly until the beginning of the Depression. Park visitation rose from approximately 63,000 in 1911 to around 240,000 in 1930 but declined temporarily thereafter. The population of Banff townsite exhibited a similar trend rising from 937 in 1911 to 2,519 in 1931 and then declining until 1941 (Scace, 1968, p. 47). Developments associated with this growth included the provision of campground accommodation, and the provision of tourism "attractions" and recreational facilities. In 1911 a nine-hole golf course was constructed near Tunnel Mountain (Crag and Canyon, May 3rd, 1935, p. 18). Other developments included the establishment of a government fish hatchery in 1913, the opening of Banff Recreation ground in 1914, and the building of the gardens in the Administration grounds in the 1930's (Scace, 1968, p. 105).

A number of tourist promotions were undertaken to attract visitors. Banff Indian Days had been an annual event since the summer of



1890. Winter use was promoted in this period by staging a Toboggan Slide Carnival in 1914. This was upgraded in 1917 to a Winter Sports Carnival (Crag and Canyon, May 3, 1935, p. 14).

In this period Banff began to develop a winter-sports function. This had started as early as the winter of 1909-1910 when much work had been done "to bring Banff before the public as a winter resort". By 1915 "winter sports were well supported" and twenty years later Banff was "famed for its winter sports" (Crag and Canyon, May 3, 1935, pp. 10-18). Though the Banff ski club was organised in 1920, skiing did not attract visitors to the park until the late 1920's.

Casual skiing by the townsite population led to the cutting of a few modest runs on Mount Norquay in the winter of 1928-1929. Skiing as an attraction for visitors began at Skoki, following the building of a ski lodge in 1931. This area was the first major ski area to be opened in North America and in 1932 began to attract skiers from the United States and Eastern Canada despite the difficult access to the area (Frontiers Unlimited, 1965, p. 38). Other areas in Lake Louise gradually opened up and in 1933 activity at Sunshine began after the first ski camp opened. By 1938 skiing was attracting visitors to Mount Norquay, Ptarmigan, Skoki, Lake Louise, Sunshine and Mount Assiniboine areas. Skiing attracted a growing number of skiers in this period but facilities were minimal and the activity did not have the complexity of services and facilities that characterize it today.

However, skiing was one activity which opened areas for recreation away from the townsite. Though it was more resource-based than facilities-oriented in its initial stages, the cutting of runs did require some landscape alteration. During this period trail riding, and climbing



and hiking gained in popularity encouraged by the Alpine Club (Van Kirk, 1969, pp. 105-106). Generally their impact was insignificant compared to the development of facilities-oriented recreation in the townsite. In addition to Banff, Lake Louise had developed a small townsite in 1925 after the automobile had created the need for cheaper tourist accomodation.

c. Economic Activity

Economic activity continued throughout much of the first part of this period. Bankhead became plagued with strikes between 1919 and 1921, when the mines were closed as uneconomic. Industrial operations at Canmore and Exshaw continued however, along with logging, until they were excluded from the park with the boundary changes of 1930. The policy of landscape protection had increased in importance, and with the embodiment of protective intent in the 1930 Act the park boundaries were redrawn to exclude industrial activity.

d. Protection of Vegetation and Wildlife

In 1911 increased appropriations had allowed the establishment of permanent forest and game wardens together with the enlargement of this force. Thereafter protection became effective, with game laws being enforced, and the inauguration of stringent fire prevention and control measures. This allowed the gradual regeneration of much of the landscape to an approximation of its state prior to human interference. There was both a regrowth of forest and a rapid increase in wildlife particularly species such as deer, moose, and mountain goats, and mountain sheep. The increase in wildlife led to a reconsideration of the policy of predator control and although it continued it was restricted to a few specified





predators such as wolves and coyotes (Van Kirk, 1969, p. 162).

The policy of protection which was increasingly reflected in the character of the landscape became formally embodied in the National Parks Act of 1930. The statement of purpose of the Act remains the basis on which the parks are managed today.

"The Parks are hereby dedicated to the people of Canada for their benefit, education, and enjoyment...and such parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations." (Canada, I.A.N.D., undated, p. 3).

This legislation reflected the changing perceptions of the park and indicates the growing importance of protection. However, the declaration that the park was for the "benefit, education and enjoyment" allowed a very liberal interpretation of the recreational functions of the park. This was a reflection of the failure to perceive the incompatibility between tourism and protection. Though tourist use of the park increased in this period it was modest compared to what occurred after 1945, and as it was limited to few areas it appeared to be compatible with protection.

#### e. Perceptions of the National Park

In this period the perceptions influencing the national park were largely those of one man, J. B. Harkin, Commissioner of Parks, who was responsible for much of parks policy during this period. Harkin was the instigator of both the development of protection and tourism. He realized that to secure adequate support for the national parks tourist revenue was needed rather than justification in terms of the intrinsic natural values the park preserved. While Harkin personally had a clear conception of wilderness values that the park partially embodied it is





very doubtful if these were shared by the majority of Canadians (Nash, 1969, p. 78). Although concern in the United States over the preservation of wilderness, which was manifested by 1911, had become an aspect of the national parks programme in the mid-1920's (Swain, 1969, p. 9), in Canada preservation of a natural landscape for its intrinsic qualities was not an issue until the post-war period. Though the 1930 Act embodied the protection function of the park as its basis, it also allowed ample scope for development policies. The protection of the landscape in this period was designed to enhance the appeal of the park as a tourist resort rather than protect forest and wildlife resources for their own value.

Harkin himself stressed the role of the national parks as the "provision of recreation close to nature" (Harkin, 1918, p. 100). However, he was also aware of the dilemma of both promoting and protecting parks. In his annual report on national parks in 1927-1928 he called for "vigilance to preserve their unspoiled character and develop a policy which would permit use and maintain the unspoiled character" (Cited by Van Kirk, 1969, p. 78). The 1930 Act was an attempt to achieve this. However, Harkin and the park administration could hardly have foreseen the rise of visitation in the post-war period and its impact on the natural landscape.

While the protectionist emphasis of the policy was clearly evident in the removal of economic activities in 1920, there was only an incipient awareness at that time that provision of a wide range of recreational activities was detrimental to preservation principles. The parks were managed primarily as tourist and recreation areas and their main asset was as "playgrounds of the people" (Ross, 1915, p. 163). Parks



publications pointed out that Banff National Park provided "rigid sanctuary conditions" and in the same passage stated they were unsurpassed in the field of outdoor recreation (Canada, Department of Mines and Resources, 1938, p. 13). With the modest visitor use of the time the two were not incompatible, particularly as recreational use was centred on the townsite. Partly because of this, the dichotomy between the development of recreational facilities and preservation was little perceived, but this oversight also reflects the perception of the park as primarily a recreation area.

This view was particularly that of a number of interested agencies, whose interest and influence in the national park had continued to grow in this period. Those agencies were the federal government, the C.P.R. Company, and residents of Calgary and Banff townsite (Scace, 1968, p. 123). While the federal government made a consistent effort to develop a protection function in addition to a recreational function, the other agencies were interested solely in the promotion of the park as a tourist resort. In this they were unopposed; no conservation organisation existed and the majority of Canadians undoubtedly took a similar view. In the following period however, the growth of both visitation and of perceptions of the park as preserving a natural area of value in itself led to conflicts of perception and use.

#### THE IMPACT OF VISITATION AFTER 1945

In the period after 1950 the rapid increase in visits had a number of impacts on the national park. The preservation function was affected not only because of the increased scale of visitation but also because of its nature and spatial extent. The growth of such facilities-



oriented recreation as skiing and the extension of highways in the park meant that recreation was no longer exclusively centred on the townsite area but extended into other areas of the park. This brought about the possibility of large scale physical changes in natural areas. Attempts to interpret the act more clearly and alleviate land use tension led to the interest and conflict of development and conservation agencies in the national park. Conflicting perceptions of the park and its use led to the park becoming, for the first time, a matter of public debate.

a. Rises in Demand and Recreational Use

After 1945 the number of visitors to the park increased so rapidly that by the mid-1950's it became obvious that the overdevelopment of the park and particularly the townsite was a distinct possibility (McKim, 1969, p. 761). Between 1950 and 1960 the visits to the park doubled and doubled again between 1961 and 1967 to reach two million (Table I). The majority of these visits entailed the use of the townsite and led to a reappraisal of existing townsite management procedures as well as a review of national parks policy (Scace, 1968, p. 788).

This was also necessitated by the extension of use into more natural areas which followed the development and rebuilding of highways in the park. The Banff-Jasper highway had been completed in 1940 but in this period it was improved and joined the Trans-Canada as a major paved highway in the park. Recently the David Thompson highway was completed between Rocky Mountain House and the Banff-Jasper highway.

Skiing was one recreational use that caused a number of changes in the park through its developments. As early as 1947, Banff had "developed into an outstanding winter sports area" (Canada, Department of





Mines and Resources, 1947, p. 7). However, the first ski facilities were not developed in the park until 1954, when the first lift was installed at Lake Louise. Following this, development at Norquay, Lake Louise, and Sunshine proceeded fairly rapidly and these ski areas grew to their present dimensions.

The growing use of the park and its potential affects on the natural landscape necessitated the reappraisal and classification of parks policy. The growing volume of use of the park had also "attracted the attention of private enterprise and resulted in pressure for the development of recreational and entertainment facilities that...are unsuitable for national parks" (Laing, 1964, p. 1). Reappraisal of parks policy led to a conflict between various development and conservation agencies and the expression of wider public interest in the future of the national park.

#### b. Reappraisal of National Parks Policy

The rise in visitation to the national parks, beginning in the early 1950's meant that park policy had to be gradually reappraised. This culminated in the National Park Policy Statement of September 1964 by the Honorable A. Laing, the Minister responsible for National Parks (McKim, 1969, p. 762). His statement clearly indicated that preservation of natural area was now considered to be the basic purpose of the parks, and development was to be considered solely on the basis "of the direct effect it will have on increasing the public's enjoyment and use of the national parks and on maintaining them as sanctuaries...of nature" (Laing, 1964, p. 2).

The Minister's statement refined the idealistic purpose of the





park but did not establish any clear guidelines for alleviating land use conflicts. In doing this he ignored the lesson of the history of Banff National Park, which was that the form that the public enjoyment of the Park took was often in direct contrast to the maintenance of the park as a natural area.

The policy indicated by Laing's speech became more expressly formulated in a more comprehensive publication of National Park Policy. The policy expressed clearly the basic preservationist function of the park. However, this is qualified to such an extent by other considerations of development that it virtually negates the basic purpose. For example:

"The construction of highways, fire roads, hiking trails, fences, townsites, artificial recreational developments and the like are detrimental to natural history values in National Parks, but if essential, should be developed so as to have the least possible impact on nature and natural facilities" (Canada, I.A.N.D., undated, p. 6).

The impairment caused by visitors is to be "kept to an absolute minimum". However, the qualifications that "any such impairments should be accepted only if it is justified by increased, improved or broadened use of the park in accordance with park purposes" makes the first statement virtually void, particularly as the basic function of the park is subject to qualification (Canada, I.A.N.D., undated, p. 6). Henderson comments that "a superficial reading of the policy is encouraging, but more careful analysis reveals that the guidelines for decision making are in many cases fuzzy and as wide open as ever to the winds of political expediency" (Henderson, 1969, p. 893).

How fuzzy and wide open the policy was, was demonstrated by the controversy surrounding the question of staging the Winter Olympic Games



in Banff National Park. The strong pressures exerted both for and against the staging of the Games and the necessary developments which would have accompanied it led to the park becoming a matter of public debate. The issue of the Olympics crystallised both the nature of the development pressures on the park and of present contrasting perceptions of the park and its uses.

c. Contrasting Perceptions of the National Park: The Winter Olympics Controversy

Contemporary perceptions of the national park cover a wide segment but broadly can be divided into 'development' and 'conservationist' categories. Local development interest in the park by a variety of agencies has long been expressed in terms of the recreational and economic benefits provided by promoting a wide range of recreational activities of the park. This view led to attempts to secure the Winter Olympics for Banff National Park in 1968 and 1972. These attempts were supported by particularly strong pressure from the townspeople of Banff and the City of Calgary. Pressure for the Olympics reflected the interests of recreationists but was applied mainly by those who stood to gain commercially.

The Calgary Herald was, and is, a leading advocate of development of the national park. It was a strong proponent of the park staging the games and was the medium for the views of development agencies. The paper criticized those with "narrow prejudiced and selfish interests", who stood in the way of converting "the Canadian heritage into orderly use". Development in the park would provide both a use of the area and add "tremendously to this region's tourist business and hence to the Alberta and Calgary economies" (Calgary Herald, February 7, 1966). For



the Herald and the agencies for development the main consideration is clearly economic. This view saw the park as having room "for both recreational facilities and vast unspoiled wilderness" (Calgary Herald, February 12, 1966, p. 4). The outcome of this view, particularly in the face of growing visitation, is the continued encroachment of development into natural areas and the negation of the parks preservation purpose.

The attempt to secure the Winter Olympics and the projected developments failed. The uncertainty of snow conditions at Banff, the attractions of other locations, and the opposition of conservationist agencies were responsible (Nelson, 1969, p. 133). The opposition of the conservationists reflected the growth of the view of the national park preserving wilderness area for its own intrinsic value, a view which precluded all but minimal development. Only in the last decade have Canadian Parks been perceived as natural preserves and then only by a minority (Nash, 1969, p. 81). The majority of Canadians still regard Canada as possessing an excess of wilderness and do not view the national park value as the preservation of wilderness areas.

The development of the view of the park as a natural preserve of value in itself, meant the growth of public controversy with attempts to development of Banff National Park commercially. Part of the opposition to the staging of the Games was national. Prior to the 1950's Banff was remote to most Canadians in time, cost, and distance, and the way it was managed and developed was of local interest only.

This local interest in developing the park has lately met significant opposition. But only in recent years with the establishment of the National and Provincial Parks Association and the interest of other conservationist bodies can Canada have been said to have any national



parks movement, i.e. a body of public opinion expressing informed views on the national parks (Nicol, 1969, p. 38).

At present the general public perception of the national park and its use is mainly unexpressed, either because of apathy or ignorance. Government policies towards the park in the past have often reflected the demands of a small number of self-interested groups, wishing to develop the park. The growth of conservation bodies, with an alternative perception of the park, has led to conflicting pressure on the government. It has also led to attempts to make the average citizen more aware of the situation in the national parks.

A critical need at present is a clear presentation to the public of the choices and alternatives for Banff and other national parks (Henderson, 1969, p. 876). That the average citizen is aware of the problems of the park and of his role in causing this by recreational demands is a matter of debate, but seems unlikely.







## CHAPTER IV

### USE & DEMAND FACTORS IN THE PARKS LAND USE CONFLICT

This chapter assesses some of the components of use and demand which are responsible for the development of land use conflicts in the national park. Demand for the national park is a reflection of the demand for outdoor recreation. It is important to identify the main characteristics of demand that have caused pressure on the park and the nature, amount, and patterns of park use.

#### THE DEMAND FOR RECREATIONAL RESOURCES

A growing population which has an increasing amount of leisure time and which is concentrated in urban areas has brought problems of increased demand for recreational resources. Mass outdoor recreation began before 1939, but it has accelerated in the post-war period to give a new dimension to the problem. Higher incomes, increased leisure time, more paid vacations, and the mobility provided by the ownership of the automobile have led to unprecedented demands on recreation resources (ORRRC Study Report, 20, p. 8).

Present and future demands for outdoor recreation resources are basically a function of the size, distribution and composition of the population (Hauser, 1962, p. 29). The nature of demand for outdoor recreation varies among groups within the population. Improvements in the basic demand variables of income, education, and occupation, together with a lower median age, lead to increased participation rates (ORRRC Study Report, 20). In Canada the trend of these demand variables is upward



(Brookes, 1962, p. 211). Increases in recreation facilities and areas are necessary not only to keep up with population growth but to allow for an increase in participation rates (ORRRC Study Report 20, p. 69).

Population is not only increasing in North America, it is becoming more concentrated in large metropolitan areas, and this is the commanding factor in the problem of outdoor recreation (Perloff and Wingo, 1962, p. 83). The greatest need for the provision and extension of outdoor recreation areas lies within the urban environment and in areas adjacent to it (Hauser, 1962, p. 53). This need is the most difficult to satisfy. There are not only inherent limitations of space in, and proximate to, urban areas, but also sharp competition from other land uses for available space.

Other recreational areas have also been subject to pressures of demand. The interrelationship between demand and the supply of recreation areas is best analysed by using Clawson's classification of recreation resources (Clawson, 1959, p. 11). Clawson divides these into "user-oriented", "intermediate" and "resource-based".\*

The present lack of suitable user-oriented and intermediate recreational resources is partly responsible for current demands on resource-oriented areas, including national parks. There is particular visitor pressure on these resource-based areas within day and weekend

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\* "User-oriented" areas are located in close proximity to users and have intensive use, for example city parks. "Intermediate" areas are usually situated within one hour's travelling time. They are often natural environment areas with diversified recreational facilities and suitable for a day outing, for example, Provincial Parks. "Resource-based" areas are natural areas, usually located some distance from urban areas and attract vacationatists and include the national parks.



use zones of urban areas. The pressure on such areas is often assumed to reflect the inadequacies of the urban environment (Daifuku, 1968, p. 202). However, this is qualified by the negligible differences in recreational activity that exist between urban and rural populations (ORRRC Study Report 20, p. 13).

Visitor pressures on resource based areas reflect the mobility of urban dwellers which allows an ease of substitution amongst recreational resources (Perloff and Wingo, 1962, p. 86). This allows the urban Californian to include Yosemite National Park within his weekend commuting range with drastic results for the quality of the park environment (Cahn, 1968, pp. 10-12). Banff National Park is within the weekend use of most of Alberta's population. For Banff, this proximity has significant implications for the resource base and preservation aims. The users who visit the national park because of the lack or inadequacy of other types of recreational areas will demand recreation facilities which the park is not meant to provide. One obvious answer to this problem is to supply more user-oriented and intermediate areas.

However the degree to which users would substitute user-oriented and intermediate recreation areas for an accessible high quality resource is open to question. Clawson thinks the degree to which one park is a substitute for another depends basically upon its location but is also related to the physical characteristics of the areas involved (Clawson, 1969, p. 60). But it seems more likely that within certain geographic limits, high quality resources are liable to have excessive use while lesser areas are under utilized (Perloff and Wingo, 1962, p. 91). This opinion is backed up by Richards' study of the use of some Saskatchewan parks which indicated that people are willing to





travel considerable distances for superior park surroundings (Richards, 1967).

The extent to which substitution exists between the national park and other recreation areas will vary between recreational activities. These relationships will be important to the amount, timing, and type of visitation. Demand for the national park is made up of a number of different demands. Each recreational activity will have its own pattern of demand in addition to that for the park as a whole (Taylor, 1969, p. 887). In the context of this discussion demand has been considered to be synonymous with use. Though demand for a resource will usually lead to use or consumption of it, difficulties arise when demand forecasts are made. Use of a resource is determined by both demand and the availability of supply (Knetsch, 1969, p. 86). Demand forecasts are made on the basis of present supply conditions but this obviously tends to result in a continuation of existing supply conditions (Seneca and Cicchetti, 1969, p. 239). For example Taylor, on the basis of a travel survey in the national park, recommended the expansion of motels in Banff (Taylor, 1964, p. 19). Without any attention to alternative supply conditions this will lead to over supply of such facilities.

The implications of the effect of future growth of demand on the national park is a matter of controversy. Present demand surveys are deficient because they provide no means of knowing how recreational use will be affected by changes in supply (Knetsch, 1969, p. 86). However concern for the future of national parks is implicit in their status as a national heritage for both present and future generations. The magnitude of the growth of recreational demand has led to the assumption of continued growth being challenged particularly in the context of the





existing social system (Dasmann, 1969, p. 285). However at present every reasonable indication is that the trend of outdoor recreation will continue upward (Clawson, 1969, p. 59). It has been estimated that visitors to Banff should reach four million in the early 1970's (Nelson, 1969, p. 113). This would represent a doubling of the 1967 figure for visits to the national park. Rises in visitation of this order would render the national park a natural area in name only.

It is also possible that future demographic and ecological changes could invalidate present assumptions and values associated with national parks. Urbanisation and its impact on human behavior could lead to forms of recreation at present unknown which could be completely urban centred (Hauser, 1962, p. 46). This could render national parks unnecessary, for the case for them rests on their value in fulfilling some aspect of society's needs.

At present the value society places on Banff National Park is threatening it. This paradox stems from the growing use of the national park. Analysis of this is difficult because of the lack of data, however certain aspects of use and visitation patterns for, and within, the park can be indicated.

#### USE OF BANFF NATIONAL PARK

Since 1950 visitation to Banff National Park has increased by over 400 percent (Table I). The pronounced increases after 1960 are probably related to the development of the Trans-Canada highway and the Rogers Pass (Nelson, 1968, p. 113). The overall increase is associated with the increase in demand for outdoor recreation which characterised the period.



TABLE I

VISITS TO CERTAIN WESTERN CANADIAN NATIONAL PARKS

| <u>Period</u>   | <u>Banff</u> | <u>Jasper</u> | <u>Kootenay</u> | <u>Yoho</u> |
|---|--------------|---------------|-----------------|-------------|
| 1950-51<br>(Calendar Yr.)                                 | 449,888      | 85,633        | 97,195          | 50,871      |
| 1951-52<br>(Calendar Yr.)                                 | 483,356      | 99,374        | 103,190         | 47,173      |
| 1952-53<br>(Calendar Yr.)                                 | 602,729      | 104,002       | 159,031         | 23,016      |
| 1953-54<br>(Calendar Yr.)                                 | 654,655      | 132,200       | 221,653         | 26,336      |
| 1954-55<br>(Calendar Yr.)<br>(Jan. 1/55 to Mar. 31, 1956) | 648,952      | 119,695       | 213,864         | 24,353      |
| <u>Apr. 1 to Mar. 31</u>                                  |              |               |                 |             |
| 1955-56   | 701,149      | 159,541       | 289,113         |             |
| 1956-57   | 717,799      | 264,596       | 336,397         | 28,164      |
| 1957-58   | 767,667      | 242,792       | 371,395         | 41,248      |
| 1958-59   | 883,028      | 234,199       | 418,216         | 53,450      |
| 1959-60   | 979,997      | 339,627       | 465,128         | 68,721      |
| 1960-61   | 1,077,170    | 370,209       | 523,719         | 73,342      |
| 1961-62   | 1,069,623    | 372,546       | 533,163         | 117,653     |
| 1962-63   | 1,347,576    | 413,734       | 598,487         | 410,341     |
| 1963-64   | 1,650,257    | 495,905       | 625,407         | 727,384     |
| 1964-65   | 1,605,784    | 510,142       | 611,429         | 707,414     |
| 1965-66   | 1,797,333    | 553,186       | 696,994         | 741,369     |
| 1966-67   | 2,044,437    | 629,965       | 773,337         | 925,289     |

Source: Nelson, 1969, p. 112.



Assessing the exact nature and impact of the increase in visits to the park is difficult. The management keep no statistics of the proportion of visitors taking part in particular recreation uses\*. This seems a serious omission in management practice. The nature of recreational use has important affects on the demand for accomodation and the timing of park visits. There is a distinction between recreational activities engaged in on long vacations and those that are the focus of day and weekend visits. Camping is common on both vacations and weekend visits, while such activities as fishing and skiing are the focus of weekend, and day, outings (ORRRC Study Report 20, p. 250). Recreational activities also have varying participation rates. Certain activities, for example skiing, are heavily limited to the winter season, others like driving and walking for pleasure have higher participation rates in summer.

The use-studies which have been carried out in Banff National Park indicate that the majority of use involves informal activities. These are limited to the highway network and the urban areas and their surroundings. However use of back-country areas is increasing. Between 1965 and 1967, the number of mountaineering and overnight camping parties almost tripled. But this type of use still only accounted for about 4,000 users during the summer of 1967 (Thorsell, 1967a). In this same period Thorsell estimated that park hiking trails received 70,000 visits (Thorsell, 1968a, p. 6). Only 40 percent penetrated more than three miles into back-country. The overall park attendance for 1967-1968 was in excess of two million, with the majority of visitors coming in the summer. It is clear that only

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\* Personal conversation with G.C. Myers, Operations Manager, Banff National Park. March 31st, 1970.



a very low proportion of the total number of visitors use back-country areas.

Winter-use in the park follows a similar pattern. Back-country use in the winter of 1966-1967 was estimated at 3,076 ski-tourers, 121 snowshoers, plus 250 over-snow vehicles. The ratio of ski tourers to downhill skiers was 1:71 (Thorsell, 1967a, p. 3).

A similar activity has different participation rates, spatial patterns of use, and impact on the park resource. Ski-touring involves minimal activity facilities, compared to downhill skiing which involves the construction of lifts, tows, services, and extensive landscape alteration.

Sightseeing by automobile is the main objective of the majority of visitors to the national park (Scharff, 1966, p. 34). Sightseeing and the interrelated activity of driving for pleasure is the most popular activity for Americans regardless of socio-economic characteristics (ORRRC Summary Report, p. 3). The majority of these users almost certainly participated in other forms of recreational activity in the park. These were probably associated activities such as picnicing, or were related to townsite recreation activity. The informal recreation activities are unrelated to specific spatial patterns of use, whereas more formal recreational activities like skiing have definite patterns of use.

The lack of statistics precludes an accurate assessment of recreational patterns and the nature and extent of demand associated with them. Nevertheless an overall assessment can be made of recreational patterns of park use and demand-supply interrelationships on the basis of available material.







## PATTERNS OF USE OF BANFF NATIONAL PARK

Patterns of use of Banff National Park are complex. They occur on international, national, regional and local levels. The various spatial patterns of use reflect different types of visitation to the national park. Campbell states that the visitor to the national park should be more clearly identified, for example as "vacationist", or "recreationist" (Campbell, 1966, p. 87). The demarcation line between the two is anything but clear. Nevertheless some distinction is necessary because of both the differing patterns of visitation and the nature of the demands they make on the park. In addition this distinction provides a convenient framework for a discussion of overall patterns of use.

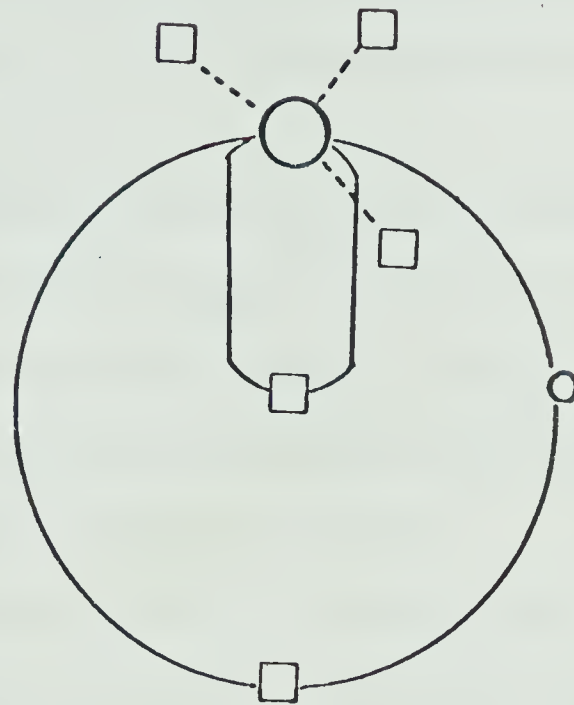
The recreationist will live within the day-use and weekend-use hinterland of Banff. Visits to the national park are part of general participation in recreational activity. The vacationist will have the opportunity to visit the park only as part of a major vacation. The recreationist and the vacationist will also have differences in the amount of money spent, the distance travelled and the patterns of movement involved, (Campbell, 1966, p. 87).

The overall patterns of visitation to the park can be conveniently illustrated by reference to a model (Fig. 6). Areas within the day and weekend use zones are dominated by what can be termed 'activity-pull'. The recreationist will visit the national park because of some specific activity it has to offer. His pattern of movement will be a radial one in which the journey will be a matter of direct travel between his place of residence and the national park.

The vacationist will exhibit a non-linear travel pattern to



## A MODEL OF PATTERNS OF VISITATION TO BANFF NATIONAL PARK



After Campbell  
1966



BANFF NATIONAL PARK



RECREATIONAL RESOURCE



URBAN AREA

Recreationist



Recreational  
Vacationist



Vacationist

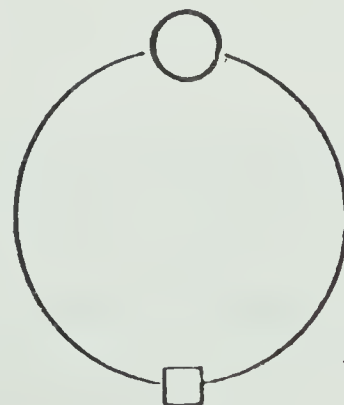


Figure 6



the park. The national park may well be the prime aim of the vacationist but he will usually make a number of other tourist stops during his vacation. In this way the pattern may be conceptualized as a circular one (Fig. 6). Though the vacationist will engage in recreational activity in the park, taking part in this will be a minor aim compared to the prime aim of taking a vacation.

An intermediate travel pattern is provided by the recreational vacationist. The skier who visits Banff National Park for a week's skiing vacation can be conceptualized as having an oblong travel pattern. The radial pattern of the recreationist being present but being extended because of the time and distance involved.

The foregoing section is considered as a convenient method of illustrating a complex series of use patterns within the scope of this thesis. A more detailed assessment involving elements of interrelations between supply and demand involves examining the park as part of a system of spatial recreational use. Demand for Banff exists on three levels:

- 1) Calgary and its region
- 2) Areas within day and weekend use zones
- 3) Tourist zone.

(Hamill, 1969, p. 474).

#### a. Calgary and Region

Calgary's proximity to Banff has led to the city having both a strong recreational orientation towards the national park and an interest in its economic development. Banff's location close to Calgary coupled with the high quality of the resource base and the existence of developed facilities is a unique amalgam and has led to substantial local use of



the park. Calgary residents account for the majority of users of certain recreational activities, such as downhill skiing and ski-touring, within the park. Local use of the park as a general recreational area is partly responsible for the present conflict between conservation and development. The situation is also related to the supply of other recreational resources in the area. Visitors from Calgary who travel the eighty miles to the townsite area, instead of to a more proximate area, incur costs to themselves in the form of expense and time taken.

The possibility of relieving local pressure on the park by the supply of more recreational areas will vary according to the nature of the particular activity. Simple recreational activities would be most amenable to substitution in more proximate areas, particularly those resort-type activities which are closely associated with the townsite.

A parks and recreation study for the City of Calgary indicates the necessity for substantial acquisition of land for parks to meet both present and future needs (Hamill, 1969, p. 476). However the provision of user-oriented opportunities does not imply any radical change in recreational use of Banff National Park. This would be achieved far more effectively by utilising the outstanding recreational potential of the foothills area west of Calgary. However at present the Rocky Mountain Forest Reserve, which covers much of the area, is managed under policies of physical production of resources, which are not designed to facilitate recreational use of the area (Hamill, 1969, p. 489-490). Many of the existing recreational areas in the foothills have a low standard of facilities. The campgrounds and picnic areas of the Bow, Spray, and Kananaskis Valley areas have a low standard of design and maintenance.





This includes the areas administered by the Provincial Parks and the Alberta Forest Service (Rump, 1967).

Much of what has been said about deficiencies of supply of recreational areas applies to the day and weekend use zones. Calgary, though it has a stronger relationship with Banff, is also part of this zone. Demand considerations associated with Calgary are dealt with in this section.

b. Day and Weekend Use Zone

The zone from which day and weekend users come extends into British Columbia as well as covering much of settled Alberta. The urban population of Alberta is strongly concentrated along provincial Highway No. 2, and, in general terms extends from Edmonton to Lethbridge. The census divisions in this axis accounted for approximately eighty percent of the province's population in 1966 (Census of Canada, 1966). Between 1951 and 1966 Alberta's population increased by 55.7 percent from 939,501 to 1,463,203 (Census of Canada, 1966).

The province also became more urbanized during this period with an increasing concentration in the metropolitan areas of Edmonton and Calgary. In 1966, Calgary with a population of 330,575 was the fastest growing city in Canada, with Edmonton second (Census of Canada, 1966).

This growing and urbanizing population has led to increased demand for recreational resources. Visits to Provincial Parks in Alberta have approximately quadrupled in the last decade (Table II). It is probable that the majority of visitors were Albertans. A growing provincial population has also led to increased demands on the national parks of Alberta. Banff is the most intensively used of these and is in



TABLE II

VISITS TO PROVINCIAL PARKS IN ALBERTA, 1960-69

|      |           |
|------|-----------|
| 1960 | 1,140,169 |
| 1961 | 1,547,831 |
| 1962 | 1,722,472 |
| 1963 | 2,485,825 |
| 1964 | 2,249,719 |
| 1965 | 2,762,068 |
| 1966 | 3,575,139 |
| 1967 | 4,081,452 |
| 1968 | 3,804,214 |
| 1969 | 4,315,902 |



turn the most intensively developed. A continuing increase in Alberta's population, with an even greater increase in outdoor recreation participation rates, will lead to greater use of Banff and other national parks in the province by Albertans.

The amount of use will vary with recreational activities. Those uses which cannot be adequately substituted for by developments in other areas will present particularly difficult problems for the national park. Skiing is one such recreational use. The province has a number of skiing areas, based on varying resource bases (Fig. 7). There are two broad types, those close to the cities of Edmonton, Calgary, and Red Deer which are user-oriented, and those in the mountain areas to the west which are resource-oriented. The user-oriented ski areas usually have snow conditions created by artificial methods. The physical slope base is far inferior to those of resource-oriented areas.

The resource-oriented areas of the mountains show a concentration of development in the national parks (Fig. 7). Outside of Banff and Jasper National Parks only Snowridge at Kananaskis, and Westcastle near Pincher Creek provide high quality skiing areas. Neither compares to any of the Banff ski areas in the development of facilities, access, or location. Westcastle provides a varied ski terrain, and lift, accommodation and service facilities, but its drawback is its location at the southern periphery of the province's population belt. Snowridge is more conveniently located but suffers at present from difficult access, though the area does possess the resource base to develop into a high quality area. The area has fifteen hundred acres of open slope, and though development of facilities is minimal, there are plans to develop



# SKI AREAS IN ALBERTA

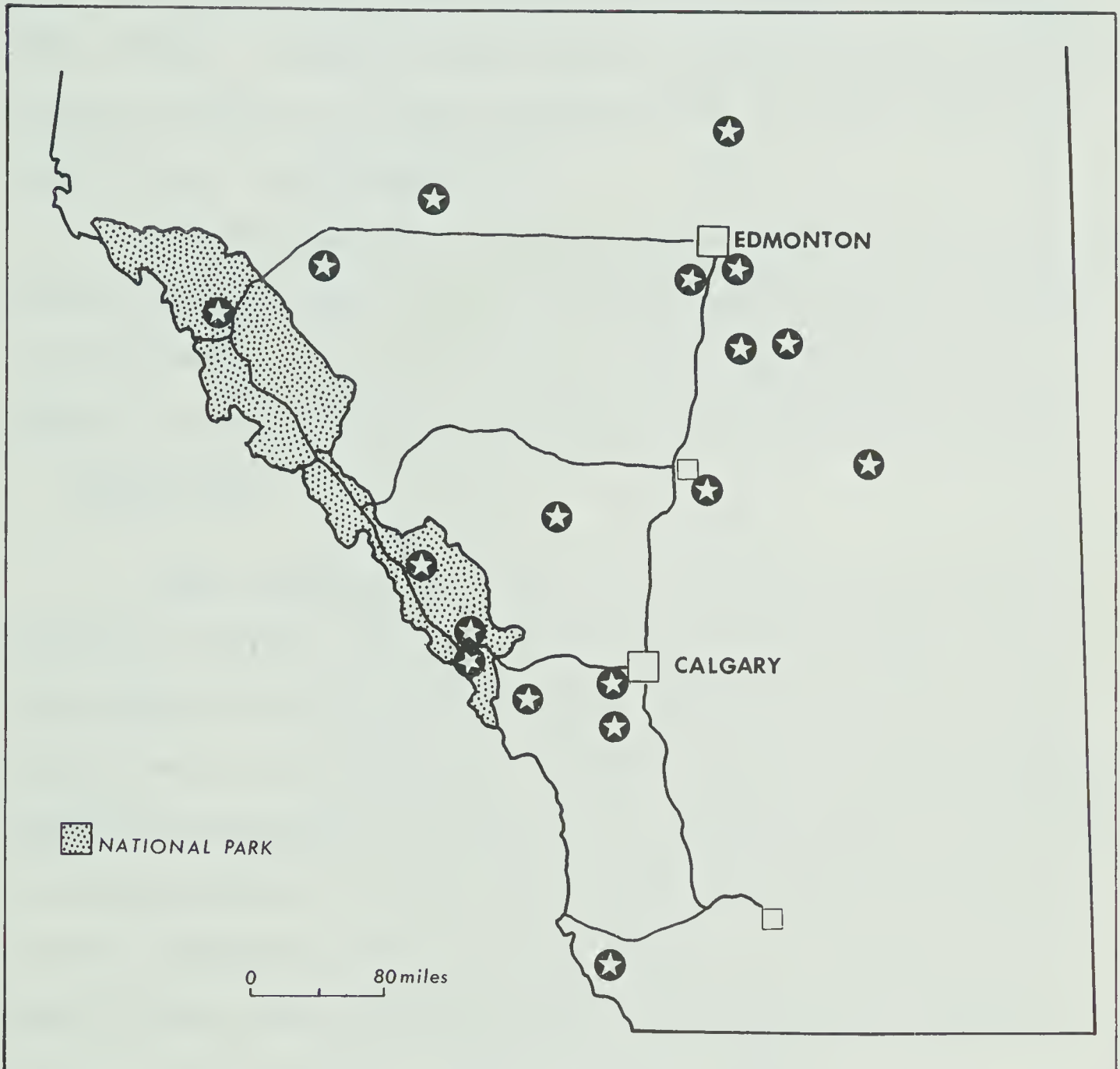


Figure 7





both lift and towing facilities as well as other services at the area (The Albertan, March 26, 1970, p. 8).

With extensive development this area would be well placed to accomodate part of the growth in demand for skiing. It is probable that there are a number of other potential ski areas in the region, but all will be more difficult to reach and service than present areas (Hamill, 1969, p. 509). It should be noted, however, that at present no studies have been carried out to assess available sites, or whether they would satisfy skiers' activity-needs.

The difficulties of relocating one recreational activity in the face of a lack of supply has been discussed. This situation will apply to any use in the national park that is being used predominantly by a regional population and which is incompatible with the park's purpose.

c. Tourist Zone

Banff National Park is part of a national system of outdoor recreation resources. Between 1962 and 1965 visits to federal and provincial parks in Canada grew by 30 percent while the population growth for this period was 5.3 percent. At present visits to Canada's national parks are increasing by 10 percent each year (Nicol, 1969, p. 45). Despite changing demand conditions the national park system has remained virtually unchanged in area since 1927 (Table III). It is true that since this date, six national parks have been established in Eastern Canada, but all of them are relatively small in area.

The national park system also has an uneven geographical distribution, particularly in relation to population (Table III). Nearly 60 percent of the total area of national parks is contained in the re-



TABLE III  
NATIONAL PARKS OF CANADA

| <u>Park</u>              | <u>Province</u>                 | <u>Area<br/>(Sq. Miles)</u> | <u>Date<br/>Established</u> |
|--------------------------|---------------------------------|-----------------------------|-----------------------------|
| Banff                    | Alberta                         | 2,564                       | 1885                        |
| Glacier                  | British Columbia                | 521                         | 1886                        |
| Yoho                     | British Columbia                | 507                         | 1886                        |
| Waterton Lakes           | Alberta                         | 203                         | 1895                        |
| Jasper                   | Alberta                         | 4,200                       | 1907                        |
| Elk Island               | Alberta                         | 75                          | 1913                        |
| Mount Revelstoke         | British Columbia                | 100                         | 1914                        |
| St. Lawrence<br>Islands  | Ontario                         | 260 acres                   | 1914                        |
| Point Pelee              | Ontario                         | 6                           | 1918                        |
| Kootenay                 | British Columbia                | 543                         | 1920                        |
| Wood Buffalo             | Alberta and N.W.<br>Territories | 17,300                      | 1922                        |
| Prince Albert            | Saskatchewan                    | 1,496                       | 1927                        |
| Riding Mountain          | Manitoba                        | 1,148                       | 1927                        |
| Georgian Bay<br>Islands  | Ontario                         | 5.4                         | 1929                        |
| Cape Breton<br>Highlands | Nova Scotia                     | 367                         | 1936                        |
| Prince Edward<br>Islands | Prince Edward<br>Island         | 7                           | 1938                        |
| Fundy                    | New Brunswick                   | 79.5                        | 1948                        |
| Tierra Nova              | Newfoundland                    | 153                         | 1957                        |
| Kejimikujik              | Nova Scotia                     | 140                         | 1957                        |

Source: Scace, 1968, p. 33.



mote Wood Buffalo National Park. 94 percent of the remainder is in Western Canada which has approximately one-quarter of the population. Alberta has 58 percent of the "accessible" national park area, in addition to the large part of Wood Buffalo which lies mainly in the Province.

The majority of tourists who enter Alberta visit the mountain national parks. In 1963 nearly 90 percent of tourists to the province visited Banff, and just over 60 percent visited Jasper (Alberta Government Travel Bureau, 1963, p. 8). These figures illustrate the attraction of the national park to tourists. Approximately half of the visitors to the mountain national parks regard them as their destination, ie. they are making a trip specifically to see the parks (Taylor, 1964, p. 19). Within the mountain national park system visits to Banff are well in excess of those to other national parks (Table I).

The extra visitation to Banff stems from a combination of factors. One is undoubtedly the visits and recreational use it receives from the day and use zone. However beyond this Banff National Park attracts more tourists than the other areas. Crombie indicates that scenic beauty is the prime attraction for Canadian and American (Crombie, 1962, p. 974). Yet for the average tourist there would be no significant difference between Banff and the other mountain national parks in terms of scenic beauty. The tourists are probably attracted by the more intensive developments and the fact that the park is the best known. The present chances of reducing tourist pressure on Banff are small. Hamill puts it at nil, because of the interests commercial enterprises have in increasing the tourist trade (Hamill, 1969, p. 474). The projected increase in national parks in Canada is not liable to affect the present



tourist use of Banff. Some forty to sixty new national parks are required to achieve an adequate representation of Canada's heritage and to meet problems of increased demand (Chretien, 1969, p. 10). Even if this target were achieved there is doubt if they could be regarded as substitutes for mountain national parks.

#### Recreational Use and National Park Quality

The above considerations of demand and use components is by the nature of the subject concerned with quantity. The number of people visiting the park is the main cause of problems involving the maintenance of park quality. The use of any recreational area has qualitative aspects (ORRRC Study Report 10, p. 55). This is particularly true of the national park and the recreational use must be considered in terms of its effects on the park resource.





## CHAPTER V

## RECREATIONAL IMPAIRMENT IN BANFF NATIONAL PARK

To assess adequately the nature of recreational impairment in Banff National Park it is first necessary to consider the national park resource and the values associated with it.

## THE NATIONAL PARK RESOURCE

a. Physiography

The national park contains parts of two geologically contrasting areas which are separated by the Lewis Fault or Castle Mountain Thrust. To the east of the fault lies the complex folded and faulted limestone front ranges, to the west are the more simple and massive main ranges. The mountains of the main range are older than the Upper Devonian and Carboniferous limestones of the front range and are predominantly of pre-Cambrian and Cambrian Age (Green & Laycock, 1967, p. 71). The peaks of the Continental Divide do not reach above 12,000 feet but the area has a well deserved reputation for ruggedness particularly in the main ranges where low dips, resistant rocks and glaciation have combined to produce some very spectacular scenery (Byrne, 1968, p. 4).

The basic features of the present physical landscape are attributable to pre-glacial erosion. The park's present glaciated appearance is due to the effects of Cordilleran ice which accumulated to great depths over much of the area during the Pleistocene (Byrne, 1968, p. 4). Since the Pleistocene the glaciated aspect of the landscape has been



modified by fluvial erosion and other geomorphic processes. Remnants from the Pleistocene are the icefields of the park which lie along the Continental Divide in the northern area of the park.

Though the glaciers are receding the tongues of the Peyto, Bow, and Crowfoot Glaciers are visible from the Banff-Jasper Highway. In addition to geomorphic features represented in the park there are a number of outstanding geological features, the best known of which are the mineral hot springs on Sulphur Mountain.

b. Vegetation

There are two general biological and ecological conditions present in the park, the Cordilleran and the Boreal. Approximately one-third of the plants and mammals in the park are Cordilleran in nature. These are mainly located in the higher elevations of the main ranges, near the Continental Divide (Ogilvie and Scace, 1969, p. 996).

The park area contains three main vegetation zones, coniferous forest, grassland and tundra. Coniferous forest is the most widespread. In its climax state it is composed of Englemann spruce, white spruce and alpine fir (Boag and Evans, 1967, p. 207). The overall forest pattern has been determined by fire, with lodgepole-pine, a fire-succession species being predominant over much of the area. Together with fire sub-climax aspen it covers most of the lower valley sides and bottoms, and south facing slopes in the park (Ogilvie and Scace, 1969, p. 997).

Climax spruce fir occupies the wetter habitats in the park and the higher valley slopes near the timberline. This is generally at 7,000 feet in the park. Above this the Alpine tundra is characterized by



herbaceous vegetation and large areas of scree. Grassland areas in the lower valleys occur on south and west facing river terraces and are a mixed mountain-prairie association.

c. Wildlife

The wildlife species of the park range freely, with the exception of the bison which is held in captivity, and are subject to only minimal management controls. Many of the large herbivorous mammals of the park can be considered semi-domesticated. They browse along highway verges and recreation areas and can usually be readily approached. Elk, deer and mountain sheep are common and are seen by the majority of visitors. These animals more than other large mammals of the park are subject to management controls. The elk is culled periodically to prevent overpopulation and the associated problems of overgrazing and disease (Marsh, 1969a, p. 235).

The rapid expansion of the elk and other herbivorous mammals occurs because of the absence of natural predators. The timber wolf and the cougar are extremely rare in the park, partially because of hunting on those parts of their annual ranges which lie outside the park boundaries (Fuller, 1969, p. 193). These animals and other predators, such as the lynx and the fox, have also been subject to human interference within the park. Harassment by man has driven the grizzly bear from its former range to its present haunt in the valleys of the high tundra (Boag & Evans, p. 219, 1967).

The black bear together with moose, coyote and Rocky Mountain goat are not uncommon but are not so readily seen in proximity to cul-



tural features. The park also contains a number of smaller mammals in addition to a wide variety of native fauna which is present.

#### THE VALUES OF THE PARK RESOURCE

The values of the national park rest essentially on the special and unique kind of environment they provide. Banff National Park is an environment with an amalgam of aesthetic, scenic, physical, and ecological characteristics which are sustained by the preservation of the area in a natural condition with a minimum of human interference.

Preservation of a natural landscape is part of man's "cultural patrimony" along with museums and art galleries (Fuller, 1969, p. 187). It embodies features of intrinsic value which have various benefits for individuals and society. The national park can also be considered a historical feature because it displays the milieu of the explorer and aboriginal man.

According to Darling and Eichhorn the values that accrue to people from the national park are in a large measure intangible but the vegetation, wildlife and ecological relationships are important for people's pleasure (Darling and Eichhorn, 1967, p. 21-22). Broadly the values of the park benefit people in two ways, directly and indirectly.

Indirect or social benefits include research and education in a relatively undisturbed natural area. At present there are a number of scientific investigations being carried out in Banff National Park. Scientific research can cause impairment of the park resource but this danger is minimised when research takes an interpretative form (Gardner, 1969, p. 224). In this form it is analogous to the education function







of national parks. In addition to benefits derived from studying natural phenomena, education by interpretative services can facilitate a more meaningful experience for those people who use the park (Pimlott, 1969, p. 273).

The national park also provides benefits to people simply by being there. Such vicarious benefits are vague and tenuous, and by their very nature difficult to define. They are nevertheless present and reach an identifiable form in the "wilderness ethic". The idea that wilderness has a value in itself is intangible, but it is embedded in the consciousness of many people and therefore is a value of the park from which people derive benefits.

The national park provides direct benefits to people who use it. This use mainly takes the form of recreational activity, but also includes transportation and livelihood. Some of these benefits are corollaries of people using the park but others, like the benefit provided by a transportation route, have no place in the park.

The park is considered by some people to have recuperative benefits. However, the value of the park in restoring a decline in health caused by the stresses of urban living is a matter of debate. Luten sees the national parks providing "the touch of nature" which is essential to human society (Luten, 1962-63, p. 7). Gans disputes this and states that national parks are a no more favourable environment in terms of mental well being than other recreational environments (Gans, 1962, p. 239). It is more probable that such beneficial effects of parks stem from the contrast they provide to the urban environment.



a. Recreational Values of the National Park

As Chapter III has shown the wildlife and vegetation of the park have been subject to significant human interference in the past. The park is in no sense an original landscape but one which a policy of management protection has allowed to regenerate to an approximation of its former state. To achieve this it was necessary to exclude a number of cultural activities from the park. The only major cultural activity to remain is recreation. This now threatens to impair the landscape in a similar way to those earlier cultural activities which had to be removed from the park to ensure the protection of the natural landscape (Nelson, 1969, p. 142).

Recreational use of the national park is pluralistic and varies in nature, intensity and extent. While any use causes some impairment there is a significant degree of difference between resource-oriented and facilities-oriented recreation in this respect. As Fuller states "we must distinguish between enjoyment of the special natural features of the park and entertainment provided by artificial devices" (Fuller, 1969, p. 197).

b. Resource-oriented Uses

For certain resource-oriented uses the values of the national park lie in its wilderness and wild areas. Without these there are no benefits. Natural values are inherent in the "wilderness experience" which is a composite of sensations, including challenge, solitude, peace and refinement of sensory impressions. These and related aesthetic values can only be provided by the maintenance of the natural landscape



of the park.

In addition to people visiting back-country areas solely to experience these benefits, they are also inherent in resource-oriented recreation. This includes uses such as primitive camping, hiking, snowshoeing and trail riding.

c. Facilities-oriented Uses

Users of this type of activity also derive direct benefit from the park resource. But whether this stems from the values inherent in the park resource is doubtful. The use of facilities-oriented recreation is responsible for an impairment of the natural landscape of the park. This impairment varies according to the nature, intensity, extent, and distribution of the activity (Figs. 8 and 9).

## RECREATIONAL IMPAIRMENT

a. Intensity and Distribution of Recreational Impairment

Recreational impairment to the park occurs mainly in areas of extensive use (Fig. 9). Thorsell has classified the intensity of use of the park into three areas (Thorsell, 1969). The intensive use zone incorporates the main areas of cultural facilities; the highways, town-sites, and ski areas. From this linear area, both user intensity and cultural facilities decrease, and the landscape reflects lessening human use and impairment until the wilderness areas are reached (Fig. 9).

The zone of intense use includes land two miles on either side of the traffic arteries, though this may be an understatement from an



# FACILITIES IN BANFF NATIONAL PARK

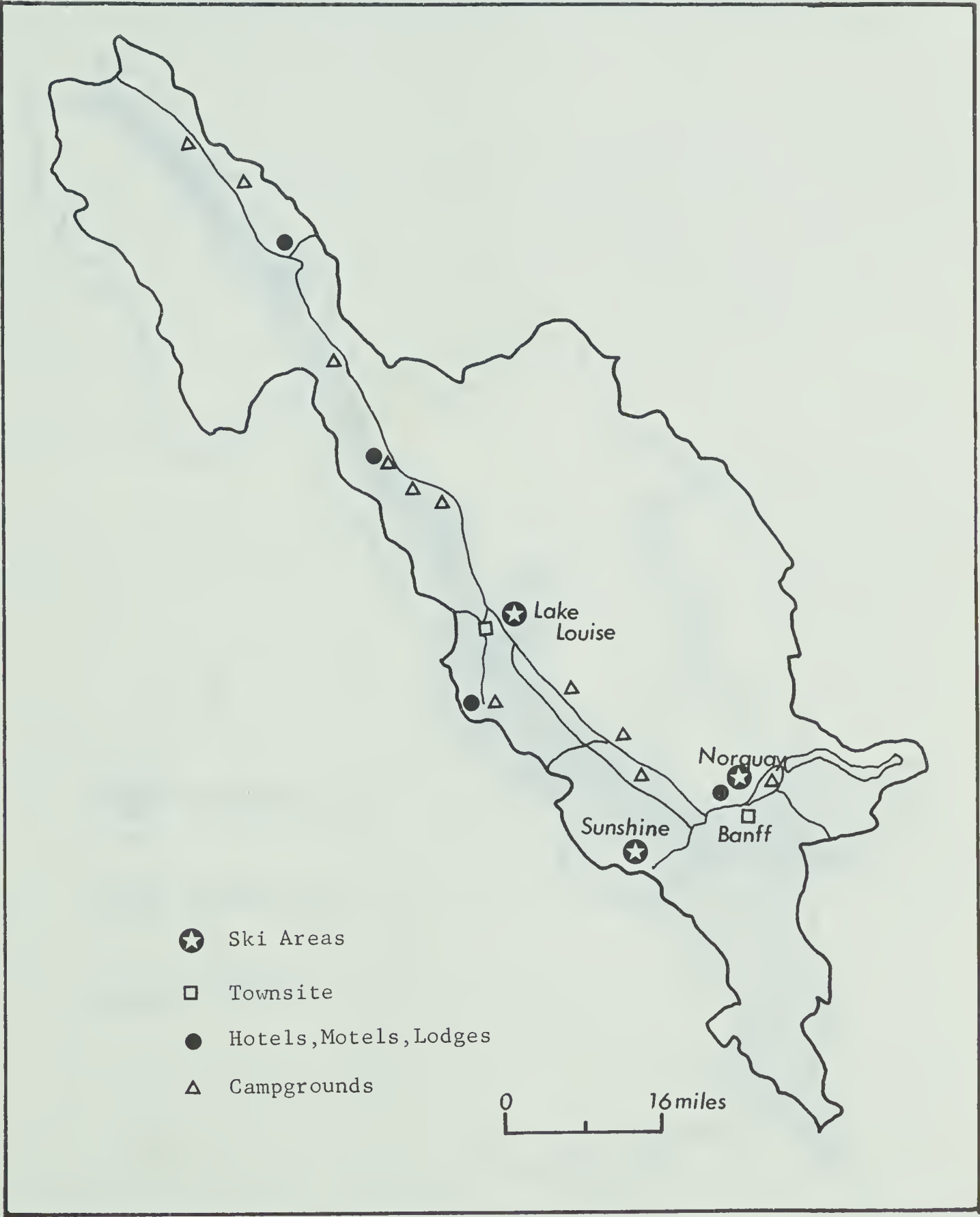


Figure 8





INTENSITY OF USE IN BANFF NATIONAL PARK

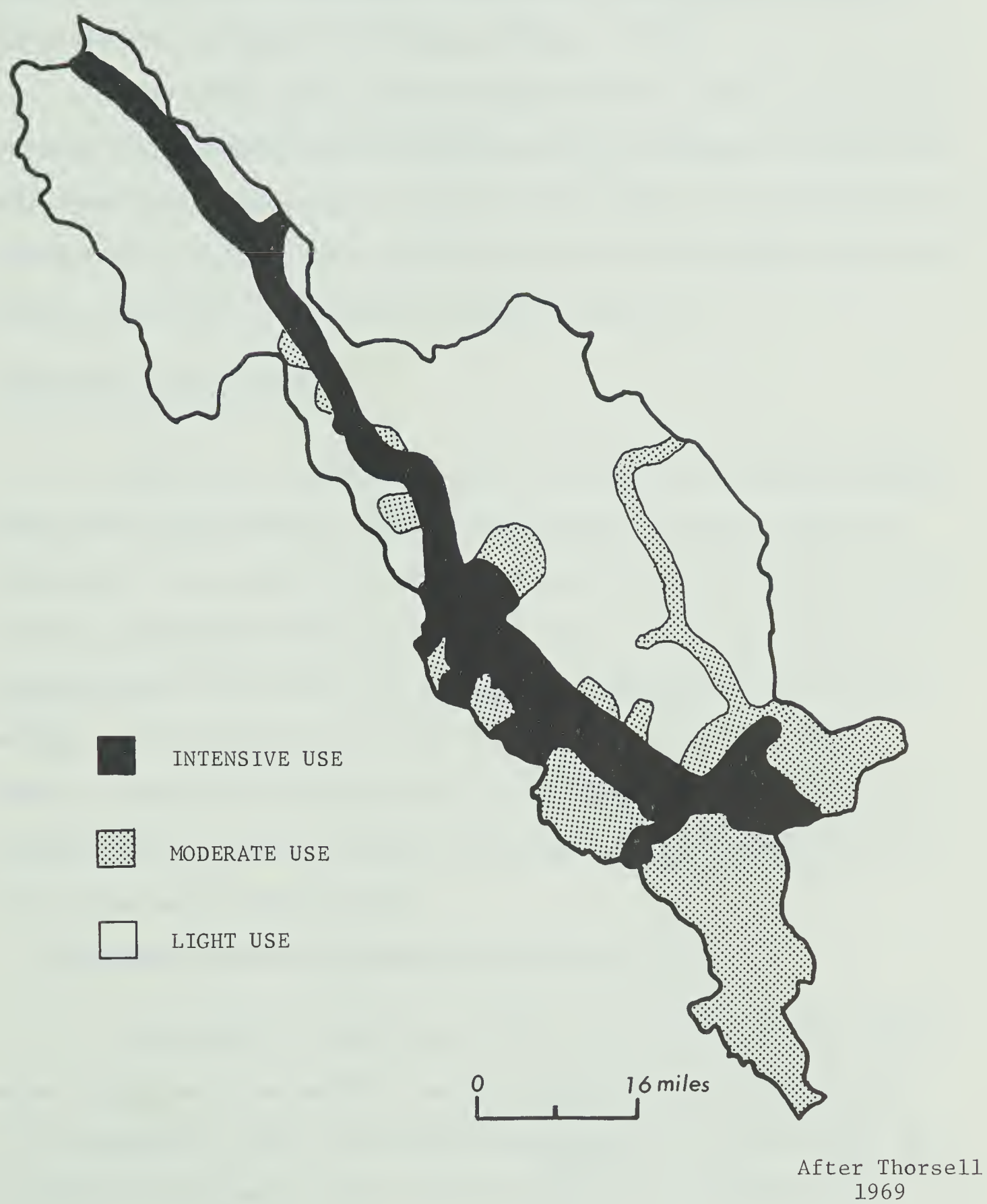


Figure 9



ecological viewpoint of effects on wildlife (Thorsell, 1969, p. 10). The intensive use zone represents 20 percent of the total area of the park. The moderate use zone, which includes those areas receiving a significant amount of trail use, encompasses 25 percent of the parks area, and the light use zone, 55 percent (Thorsell, 1969, p. 10-11).

This latter area in the northern and east-central sections of the park can be classified as wilderness, and the moderate use zone as a wild landscape. Impairment is caused in these areas, and particularly in the moderate use zone, but does not result in the substantial alterations that have occurred in areas in the intensive use zone.

#### THE NATURE OF IMPAIRMENT

There are a number of factors to consider in assessing impairment of the park resource. Mathieson states these as the volume and intensity of use, ground cover, climate, and the general ability of vegetation to regenerate (Mathieson, 1960, p. 22). In the national park a consideration of the effects of recreation on ecological relationships, wildlife, physiography and the visual quality needs to be assessed. Though at present no extensive studies have been carried out, there is evidence that facilities-oriented recreation has had a substantial impact on the factors listed above.

#### Impairment Caused by Highways and Service Centres

The majority of people who visit the national park are sight-seers travelling by automobile, and who stay in accommodation provided by the townsites, motels and serviced campgrounds in the park (Fig. 8). A problem of management arises from the paradox that although such



services are necessary to enable people to enjoy the park, they threaten to impair the features which make the park attractive.

There is considerable controversy concerning the existence of highways in Banff National Park. These are a necessity for people to enjoy the park and who do not or cannot travel in other ways. However, highway construction in the national park should be both kept to a minimum and undertaken with reference to physical and ecological conditions. There is ample evidence that this has not been the case in the past.

The highways and townsites utilise the valley bottoms, which though they provide a natural area for settlement and movement also contain the rarest ecologies in the park. The valley bottoms contain the aspen parklands and grasslands that are the winter ranges of large game animals. These areas are in comparatively short supply while conifer areas are present in abundance, but are little used for cultural developments (Cowan, 1969, p. 934). Highway construction has also resulted in the alteration of a number of geomorphic features in the park. The most well known case of this type was the use of moraine gravels in the construction of the Banff-Jasper highway.

The building of highways can also impair the park aesthetically. Darling and Eichhorn define impairment, in this sense, as the interruption of expanses of natural scenery (Darling and Eichhorn, 1967, p. 16). Whether this is the view of the majority of visitors is debatable in the light of the findings presented in Chapter VIII on people's perception of ski facilities in relation to the scenic landscape.

The existence of highways in the park can be considered a necessary impairment, but they should be kept to a minimum and a continued growth of visitors should not mean a continued growth of highways,





services and townsite areas. There are proposals at present to construct a scenic highway between Lake Minnewanka and Lake Louise via the upper Red Deer Valley. This would involve extensive changes in vegetation and wildlife in the isolated upper Red Deer River Valley, one of the few areas where the landscape remained unmodified during earlier periods of man's occupancy (Nelson, 1969, pp. 138-139).

Highways also tend to spawn a number of services and accommodation areas which have already become a major modifier of land in the park (Marsh, 1969a, p. 231). This problem is also related to the failure of parks policy to make townsites in the park conform to their stated purpose of providing only essential services to visitors (Laing, 1964, p. 3).

That Banff townsite in particular does far more than this in catering to a wide range of urban entertainment and facilities-oriented recreation needs is undoubted. The existence of such facilities creates an atmosphere which gives only the most transient and superficial relationship to the values of the national park (Oberlander, 1969, p. 297). At Lake Louise the plan for a multi-million dollar development looks as though it will duplicate the present facilities and problems of Banff townsite. Other urban nodes in the park, such as Sunshine village, provide the nucleus for future urban developments in the park.

This is not to argue that Banff townsite should not provide mass recreation. Such an area is needed, but not within the boundaries of a national park (Dasmann, 1969, p. 287). While highways and service centres impair the landscape in the national park, particularly in their present form, they are necessary to facilitate legitimate enjoyment of the park.

Facilities-oriented recreation, such as downhill skiing and





snowmobiling, can be considered as impairing the landscape without providing enjoyment based on the parks intrinsic qualities. These activities occur mainly in zones of intensive use but are peripheral to major concentrations of cultural facilities, and they constitute a pressure agent for more extensive encroachment of the natural landscape.

b. Impairment Caused by Snowmobiles

In recent years the use of snowmobiles has increased rapidly in the national parks (Thorsell, 1968b). The use of oversnow vehicle travel has been experienced in the park from about 1944, but it was only with the advent of the small snowmobile in 1964 that recreational use developed, (Trends in Parks and Recreation, 1969, p. 4). The use of the snowmobile has had a number of impacts on the park, including a demand for more trails, a rapid increase in use, and conflict with skiers (Nelson, 1969, p. 134).

The main impact of snowmobiles has been on the maintenance of the quality of the park resource. The snowmobile permits long-distance penetration into back-country areas with disruptive effects on wildlife and vegetation. The mutilation of vegetation, litter, harassment of game, and unnecessary noise are listed as environmental impairments caused by the use of the snowmobile (Nadel, 1968-69, p. 2). In the National Park tracked snowmobiles have already left scars on Alpine heath vegetation in the Bow Pass Divide (Scace & Ogilvie, 1969, p. 1011).

In addition to its physical and ecological effects, the machine is incompatible with the important wilderness experience of peace (Baldwin 1968-69, p. 7). An expansion of its use in the park will lead to conflict



with resource-oriented winter uses such as snowshoeing.

c. Impairment Caused by Downhill Skiing

Downhill skiing impairs the natural landscape both by the assemblage of associated development and by the modification caused by the activity itself. Downhill skiing in the national park has led to a number of accompanying facilities. These consist of accomodation and food services, entertainment facilities, highway access and parking lots. The effects of these developments has already been assessed.

When this range of facilities becomes available, recreation becomes essentially an urban experience in a general non-urban setting (Hamill, 1969, p. 483). Both Mount Norquay and Lake Louise ski areas are located in proximity to townsites and they have the effect of extending the complex of facilities over a larger area (Fig. 8). The Sunshine ski area is situated some distance from the highway (Fig. 8) and contains its own small 'village' which includes chalets, an Inn, a Day Lodge and a Sport Shop. Sunshine has extended the zones of intensive use into the wild landscape. The future expansion of Sunshine Village, both to accomodate more ski-use and as a resort offering diversified recreation, could create a further townsite in the park.

The logical outcome of the continued development of facilities-oriented recreation is demonstrated in a brief prepared for the Alberta provincial government (Francis, et al, 1966). This remarkable document states that national parks policy is unfair to Alberta residents and seriously detrimental to the provincial tourist industry. It advocated the need for the "Switzerland concept", the development of an attractive humanized landscape in the park with town and village



sites, more accessible 'wilderness' and a range of apres-ski day and night activities (Francis, et al, 1966). This view of Banff as a giant playground is an extreme one but indicates the logical outcome of the continued development of skiing facilities in the national park.

The facilities necessary for skiing activity, such as tows and lifts, cause an impairment of the natural landscape. The clearing of slopes for ski runs changes landscape appearance, alters run-off, and interferes with wildlife habitat (Marsh, 1969b, p. 2). The extent to which these factors have occurred in Banff National Park is unknown because of the lack of studies.

Skiing, like any intensive recreational activity, will interfere with certain types of wildlife, such as predators. It also affects vegetation by trampling which accelerates erosion and changes the characteristics of the flora, frequently to the encouragement of weeds (Cowan, 1969, p. 935). Studies of the landscape effects of skiing in other areas indicate that the main damage to vegetation and soils occurs during construction and maintenance periods (Watson, 1967, p. 40).

Once areas are damaged it is difficult to regenerate the vegetation and the eroded areas subsequently enlarge. In the Cairngorms, Scotland, machinery for moving equipment caused the most severe erosion, forming erosion channels up to six inches in depth. Damage from skiers passing uphill on ski tows also caused distinctive erosion of vegetation when snow cover was thin (Watson, 1967, p. 41). This would not be such an important factor in Banff National Park, which in a normal winter would have adequate snow cover, but the other findings suggest the need for related studies in park skiing areas.





The impairment caused by ski use and the cutting of trees for ski runs are limited in area in the national park and at present constitute less of a problem than the development of associated service facilities. However the developments that were planned for the Winter Olympics would have involved extensive impairment of the natural landscape and serve as an indicator of the effects of future developments.

Bobsled, luge and cross-country runs were surveyed and some courses were actually cut (Scace & Ogilvie, 1969, p. 1006). The planned developments for luge tracks and bobsled runs would have substantially modified the forested areas on the east and north-west slopes of Sulphur Mountain and in the Taylor Creek area, near Eisenhower Junction. In addition a forty acre park was also projected containing a winter sports and administration complex (Provisional Winter Olympics Committee, u.d.).

Impairment of Banff National Park by facilities-oriented recreation has occurred and analysis suggests this will accelerate. It is difficult to evaluate accurately the degree of impairment because of the lack of physical, ecological and perceptual studies. Impairment of the physical landscape "can only be measured against a human preference (White, 1966, p. 105).

Visitor preferences and perception of the park landscape and the impact of cultural facilities on it are unknown. There is a need to know the perceptions visitors have of impairment. This is particularly important in order to find out if those users who have affected the resource-base are aware of this and of the nature of the relationship of their activity to the park.





## CHAPTER VI

### SURVEY METHODOLOGY

#### STUDY AREAS

Between December 15th 1969 and February 4th 1970 one hundred skiers were interviewed in Banff National Park. The interviews were conducted by the writer on the basis of a questionnaire (Appendix I). An approximately equal number of interviews took place in the Mount Norquay, Sunshine, and Lake Louise ski areas. They followed a pilot survey at the Mount Borgeau car park lot at Sunshine over the weekend of December 6th and 7th, 1969.

#### BIASES IN THE SURVEY

The survey was conducted during three different periods of visitor use, week days, weekends, and the Christmas holiday period. The interview's lasted between eight and twenty minutes. Skiers were chosen on the basis of a table of random numbers. If the randomly selected respondent declined to cooperate the next listed number was selected. Only three people refused to cooperate and problems of non-response were small.

The interviews contained a number of biases in addition to those which Hildrum and Brown have indicated are inherent in all interviewing through the interviewer influencing the respondents answer (Hildrum & Brown, 1956). A bias existed because the interviews were not conducted throughout the whole ski season. The season in the national park varies with ski area but on average the season lasts from mid-



December to mid-April. The interview period covered approximately 50 percent of the season. In addition there could be variations associated with the different time-periods of use, ie. weekday, weekend, vacation. No stratified sampling was undertaken because these variations were not thought to have overall significance, in terms of interaction with the park resource.

Some bias also existed in the location of interviews. This was similar in all cases with interviews conducted between the ski slopes and the car park and facilities complex. The large majority of skiers passed this point coming from or going to the slopes. However there is a possibility of discrimination against these skiers using other means of entrance and exit to the slopes.

#### THE CONSERVATION COMPARISON GROUP

This group were not selected park-users but students in a resource conservation class at the University of Alberta. Twenty-five members were asked to answer certain questions on the perception section of the skiers questionnaire to make some measure of comparison possible. The writer's assessment is that this group falls midway between the views represented by a conservation agency and the views that the general public might be expected to have.

#### THE QUESTIONNAIRE DESIGN

The questionnaire contained three sections, general socio-economic data, users activity characteristics, and the skiers' perceptions of the national park. The relationships between socio-economic



characteristics and recreational use have already been established by previous studies. Because of this socio-economic data were limited to place of residence, marital status, occupation, and education.

Place of residence provided data on the travel patterns of skiers who use the national park. This was needed because it had not been the subject of any previous studies. Marital status was included because it was thought that people with children might have a more conservation-oriented perception of the national park and its aims, and be more aware of the future implications of present use. Education and occupation were included as a means of verifying if the ski sample was comparable to data obtained in other studies.

Data on recreation activity characteristics were collected to gain more information about skiers. At present information on the nature and quality of skiing activity in the national park is not available. This is needed to facilitate a more complete picture of skiing use in the park. The activity characteristics of skiers will also influence the type of interaction they have with the national park. Information is therefore needed in managing the activity as compatibly as possible in relation to park values and purposes.

The skiers' interaction with the park was assessed primarily in terms of the perceptions they had of the park resource, their interrelationships with it, and with other recreational uses in the national park. Skiers' preferences for the development of facilities and their knowledge of park's purposes were also evaluated. The questions in this section were generally designed to facilitate assessment of the skier on a conservation-development spectrum. This could then be used to evaluate the



compatibility of skiing with the park resource and suggest ways of minimising its impact. Some of the drawbacks and difficulties in ascertaining skiers' views and achieving this aim are discussed below.

a. Some Theoretical and Practical Considerations

The questionnaire has limitations in evaluating skiers' perceptions. Particularly as "many responses to the environment are subtle and are neither customarily nor easily talked about in everyday discourses", (Craik, 1968, p. 34). As was noted in Chapter 1 perceptions of the park may be influenced by the time of day, weather conditions, and the moods of the observer. For example snow conditions influence activity satisfaction for the skier and hence his mood and perception of the landscape and its elements. These distinctions are not generally measurable by questionnaire. But in view of the broad nature of alternatives involved in practical management decisions, the questionnaire is considered adequate for assessing skiers' interaction in these terms.

Given that any structured questionnaire will immediately bias responses, a problem existed in selecting a format for evaluating skiers' perceptions. The alternatives are allowing the respondent free response to the question, or providing them with a limited number of choices. Free response is preferable because influence on the respondent's perception or opinion is kept to a minimum. Its disadvantage lies in the classification of responses. The use of a number of defined alternatives allows easy classification and comparison but can influence the perception or view that is actually held by the respondent. The latter method was the one generally used on the questionnaire, because it made classification







and comparison of the responses easier and because the nature of the study did not demand more than fairly broad categories of perceptual definition. Two questions concerning skiers' awareness of wildlife and park uses were open-ended, but these responses were amenable to classification and comparison on a simple scale devised by the writer.

The method of distributing the questionnaire posed a problem which is partially related to some of the foregoing points. A mailed questionnaire had the advantages of enabling a much more thorough range of questions. Its disadvantages lay in the difficulty of obtaining responses which would be representative of all types of skiers using the park. In addition interviews in situ were considered essential because of the importance of environmental stimuli in the processes involved in perceiving the environment. It is much more difficult to receive adequate responses if the respondent is divorced from the environment about which he is being asked questions.

Though personal interviews were mainly administered on the basis of the questionnaire, wider ranging discussion of the skier's views were often useful in elaborating basic responses. This usually had to be kept to a minimum because of the weather, which was also a factor in limiting the number of questions to twenty-five. The average time taken to complete the interview was ten minutes but some interviews lasted approximately twenty minutes. This amounts to a lengthy time for field interviewing in this area during winter. After a pilot project the questionnaire was made as short as possible given the need to elicit a meaningful response.

This meant a number of ideas had to be cut from the initial



questionnaire. One was getting the skier to draw a sketch map of the park aimed at finding the skiers 'image' of the park and his clarity of perception. This would indicate the organization or non-organization of the park into a pattern in terms of elements such as roads and landmarks. Furthermore, it would have showed whether or not the park is perceived in terms of functional districts, ie. developed, undeveloped-natural areas (Lynch, 1961). The idea suffered to some extent from people's difficulties in comprehending the necessary components, but even more from the time taken and the method involved in cold weather. An associated idea was determining if there was any decrease of perception with distance from certain focal points such as landmarks. The difficulty lay in formalising the question. The pilot project indicated that people tended to give blanket answers to questions involving an overall number of natural landmarks whether they were inside or outside the park. Sketch maps ran into the difficulties indicated above. This was also the reason why asking the skiers to sketch natural boundaries within the park, as done in Lucas' study in Boundary waters, was not pursued (Lucas, 1964b).

These and other techniques could provide a fruitful field for more extensive application to other park uses, preferably with the help of national park service facilities in which winter users could be both randomly selected and interviewed on more substantial basis without discomfort. It is hoped that some of these ideas will be taken up in a more extensive project.



# CHAPTER VII

## SKIERS' PERCEPTION OF THE NATIONAL PARK

### SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

The large majority of the skiers interviewed came from Alberta and 55 percent were from Calgary. This proportion would probably have been higher if skiers had not been interviewed during the Christmas vacation. One-fifth of the respondents were on vacation. It is clear that Calgary provides the majority of the skiing population in the national park, with much of the rest being provided by areas within day and weekend use zones (Table IV).

Approximately two-thirds of the skiers were single (66 percent). One interesting point that emerged was that all of the skiers who had children (21 percent ) who were old enough to ski brought them on occasion to ski in the national park. Most of the skiers interviewed were employed in a professional, managerial or technical position or were at university (Table V). Previous studies have found that participation in skiing increased with a rise in income (ORRRC Study Report 20, p. 12). Occupation is a reliable guide to level of income and carries none of the reticence associated with questions on personal income.

TABLE IV

#### PLACE OF RESIDENCE OF SKIERS

| Calgary | Edmonton | Banff | Rest of<br>Alberta | B.C. | Prairies | Eastern<br>Canada | U.S. |
|---------|----------|-------|--------------------|------|----------|-------------------|------|
| 55      | 14       | 5     | 8                  | 8    | 6        | 2                 | 2    |



TABLE V<sup>\*</sup>

## OCCUPATIONS OF SKIERS

| Professional<br>Managerial<br>Technical | Clerical | Craftsman | Student | Services | Others |
|---|----------|-----------|---------|----------|--------|
| 40                                      | 14       | 10        | 24      | 6        | 6      |

TABLE VI

## EDUCATIONAL LEVEL ATTAINED BY SKIERS

| Elementary | Grade 8 - 11 | Grade 12 | University |
|------------|--------------|----------|------------|
| 0          | 12           | 34       | 54         |

One qualification to the occupation-income link concerns students, who compose approximately one-quarter of national park skiers. This figure for students is high and probably reflects something of the influence of the Christmas vacation period on the survey.

Skiing also has an above average proportion of users at higher education levels (ORRRC Study Report 5, p. 16). A very high proportion of skiers interviewed had a grade 12 or above education, with over one-half having a university education (Table VI). 59 percent of the respondents were male and 41 percent female. Generally males have higher participation rates in outdoor recreation than females, though these participation differences are negligible in skiing (ORRRC Report 20, p. 15). By contrast, Marsh's study of skiers in Glacier national park found 71 percent were male (Marsh, 1969b, p. 19). However, skiing activity in Glacier is composed of ski-touring and, as a result, strict

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Because exactly 100 skiers were interviewed, figures in Tables referring to skiers are both numbers and percentage.







comparison is not possible. Male-female participation rates for downhill skiing in Banff National Park fall between those found by ORRRC and the ski-tourers in Glacier National Park.

Generally those socio-economic characteristics of skiers that were obtained approximate to what was expected. Some minor variations exist but the data closely reflect information provided by other studies. In general, the participants seem to represent a homogeneous socio-economic population.

#### USER ACTIVITY CHARACTERISTICS AND SKIERS' PERCEPTIONS

Use of the ski areas in Banff National Park has been studied by Thorsell, who related the amount of use to an estimated measure of capacity for each area (Thorsell, 1968b). However, there is little information on the skier who uses the areas. This section is intended to present some basic information on skiers and their perceptions and opinions of the major characteristics of their activity.

##### a. Intensity of Use

The intensity of skiers' use of the national park was evaluated on the basis of six categories (Table VII). If a moderate intensity of use is taken as meaning two or three visits per month then more than half of the skiers who use the park are in this category (Table VII). 38 percent use the park intensively, i.e. weekly, or more than once a week. The number of people who reported making a moderate to high intensity use of the park would probably have been much higher, if interviews had not been conducted during the Christmas vacation.



TABLE VII  
INTENSITY OF SKIERS' USE OF THE NATIONAL PARK

| Intensity of Use             | Percent of Respondents |
|------------------------------|------------------------|
| Less than once a month       | 16                     |
| About once a month           | 10                     |
| Two or three times per month | 16                     |
| Weekly                       | 28                     |
| More than once a week        | 10                     |
| Vacation                     | 20                     |

Predictably, the intensity of use was strongly related to the skiers' place of residence. Calgary residents comprised all of the group who used the park more than once a week and 68 percent of those who used the park weekly. In addition, Calgary provided 69 percent of those skiers who were not on vacation.

b. Activity Experience

The length of time that the respondents had been skiing was divided into the four categories represented in Table VIII. This illustrates that the large majority of skiers have been skiing for over one year.

TABLE VIII  
LENGTH OF TIME RESPONDENTS HAD BEEN SKIING

| Less than<br>one year | One to<br>five years | Six to<br>Twenty years | Over<br>Twenty years |
|-----------------------|----------------------|------------------------|----------------------|
| 13                    | 48                   | 30                     | 9                    |

The 13 percent of the sample who had been skiing under one year reflected the number of beginners on a skiing holiday at Norquay. These people



constituted over three-quarters of the first category.

The numbers in the 'experienced' categories declined with the increase in the number of years the respondents had been skiing. This reflects the relationship between age and participation rates in recreation activities. Participation in outdoor recreation declines with age for all recreation activity and particularly for those activities which, like skiing, require strenuous exertion.

c. Skiers' Preference for Type of Slope

The majority of skiers (56 percent) preferred to use all types of slopes, beginners, intermediate, and advanced, rather than ski only one particular type of slope. 15 percent used a combination of intermediate and advanced slopes and 14 percent used a combination of intermediate and beginners slope. One person used only intermediate slopes while 14 percent used only beginners slopes. The latter figure reflects the number of people on a skiing holiday at Norquay and who were skiing for the first time. The intermediate slopes are the most extensively used with 85 percent of all skiers using this type.

d. Ski Areas Generally Used By Skiers

Though the sample of skiers was divided almost exactly between the three ski areas in the national park this was not reflected in the area people stated they generally used for skiing (Table IX). This proportion does not agree with the figures available for the 1967-68 season which were cited by Thorsell. According to Thorsell, 52 percent of the total skier visits took place at Sunshine, 30 percent at Lake Louise and 18 percent at Mount Norquay (Thorsell, 1968, p. 11).



TABLE IX  
AREA SKIERS GENERALLY USE

| LAKE LOUISE | SUNSHINE | MOUNT NORQUAY |
|-------------|----------|---------------|
| 52          | 26       | 22            |

However, these figures represent visits to each area and do not necessarily indicate the number of skiers using each area. Sunshine has a higher number of skier visits because of its longer season. During the present winter season, 1969-70, skiers at Sunshine could be interviewed in a pilot survey in early December before Mount Norquay and Lake Louise were open. Also, the discrepancy between this information and that provided by Thorsell could partially reflect the area people would prefer to use.

e. Use of Other Ski Areas

57 percent of the respondents skied one or both of the other areas in the national park in addition to the one they stated they generally used. (Table X).

TABLE X  
USE OF OTHER SKI AREAS IN RELATION TO  
AREA GENERALLY USED

| Area generally used | Used other areas | Did not use other areas |
|---------------------|------------------|-------------------------|
| Lake Louise         | 38               | 14                      |
| Sunshine            | 17               | 9                       |
| Mount Norquay       | 2                | 20                      |





The high proportion of skiers who stated that they used only Mount Norquay is related to the number of vacationists particularly those skiing for the first time who had not used any other areas.

Over one-half of the skiers interviewed (57 percent) also skied areas outside the park. Of these people 32 percent skied at more than one area within the park. However, the writer believes that the significant point to emerge was that 21 percent of the sample did not ski outside the park and skied at only one location within the park.

f. Perception of Differences Between Ski Areas

All of the respondents who used more than one ski area (57 percent) saw a difference in quality between the areas. Skiers were generally articulate in describing the differences that existed, with the exception of 2 percent who were unable to state why they saw a difference existing. 45 percent of the skiers interviewed regarded Lake Louise as superior to the other areas. The reasons given centred on the greater amount and the longer length of slopes at Louise, which people generally viewed as having greater "variety".

Sunshine was mentioned by one-fifth of the sample, 15 percent of the respondents stated that Sunshine possessed the best facilities and 13 percent mentioned the longer season there. The chance to begin skiing earlier was stressed rather than the overall length of the season. 9 percent of the sample viewed the limited accessibility of Sunshine as a detriment; "taking the bus is a drawback".

Mount Norquay was mentioned by only 7 percent of the respondents and all mentioned the limited number of slopes. However, one asset was that Mount Norquay's North American Run provided the most difficult and



challenging ski run in the national park according to the advanced skiers who mentioned this area. One important point that emerged from interviewing skiers about the differences between areas was the voluntary emphasis skiers placed in conversation on physical conditions, such as runs, slope angle, and snow, rather than on services and facilities.

g. Skiers Awareness of Other Ski Areas

To find out how aware skiers were of other nearby ski facilities, skiers from Calgary were asked if Banff National Park was the nearest ski area to them. 33 percent stated that they thought it was. It was apparent that ski areas such as Paskapoo which is adjacent to the Trans-Canada highway on the western periphery of Calgary are not considered ski areas in the sense that the national park is. It is doubtful if Calgary skiers could fail to be aware of Paskapoo if only because they pass it on the way to Banff. However, areas such as Pigeon Mountain and Snowridge at Kananaskis which are proximate to the eastern boundary of the park and close to the Trans-Canada highway seem unknown to one-third of Calgary skiers or are not considered ski areas in the sense Banff is. Areas such as Kananaskis would assume importance in any relocation of ski facilities from the national park. However, an evaluation of the quality of skiing in the national park makes it seem unlikely that any relocation would occur because of declining quality in the park.

h. Activity Quality in the National Park

The quality of the skiing activity itself is an important component of skiing in the national park both in itself and when measured



against park goals. The measurement of quality in outdoor recreation is a critical need (Lucas, 1969, p. 915). Quality can be measured in a number of ways (Wagar, 1966), it was measured by the ORRRC study primarily in terms of user expressions of satisfaction and dissatisfaction with various activities and facilities (ORRRC Study Report 5). However, in relation to national parks satisfaction is, or should be, only part of the quality of a park visit (Lucas, 1969, p. 915). In this section, quality as satisfaction with the recreational activity itself is distinguished from the wider and more tenuous aspects of the park experience. To the extent these are included they are discussed in the next section.

Essential Requirements for Skiing Satisfaction: In evaluating the quality of the recreational activity two approaches were made, one direct and one indirect. The skiers were asked to rate their essential requirements for skiing satisfaction on the basis of six factors which covered components involved in the activity (Table XI). Skiers were also asked to rank these essential requirements in order of importance (Table XII). On the basis of knowledge obtained, basic requirements of skiers can be compared to conditions prevailing in the national park to get a measure of relative activity quality compared to other areas.

Physical conditions were viewed as essential by all but one percent of the respondents. The various components of physical conditions were not evaluated though it was stressed to the skier that these referred to general snow and slope conditions. Physical conditions present in the national park are considered by many to be among the best in western Canada. Conditions vary between each ski area but for the park as a whole are unmatched by any other ski area.



TABLE XI  
ESSENTIAL REQUIREMENTS FOR SKIING SATISFACTION

| Activity Components                     | Percent of Skiers Considering it Essential |
|---|--|
| Physical conditions (snow, slope, etc.) | 99   |
| Ski facilities (tows, lifts, etc.)      | 96   |
| Service facilities                      | 44   |
| Nearness to residence                   | 17   |
| Other skiers                            | 16   |
| Attractive surroundings                 | 24   |

TABLE XII  
SKIERS' RANKING OF ESSENTIAL REQUIREMENTS  
FOR SKIING ENJOYMENT

| Activity Component Ranked First | Percent of Sample |
|---------------------------------|-------------------|
| Physical conditions             | 63                |
| Ski facilities                  | 35                |
| Nearness to residence           | 1                 |
| Attractive Surroundings         | 1                 |

Ski facilities such as lifts and tows were considered essential by 95 percent of the sample and ranked as the prime essential requirement by 35 percent. On these grounds Banff National Park can be considered an area of maximum skiing quality compared to other ski areas in Alberta all of which possess a less extensive development of satisfactory facilities and physical conditions.







Nearness to residence was not an essential factor for 83 percent of the skiers. The conclusions that can be drawn from this are general because of the lack of knowledge about the distance skiers are willing to travel and how this relates to the quality of the resource base and existing developments. Attractive surroundings were essential for nearly one-quarter of the skiers visiting the park. For this group a subjective view is that few areas could provide such high quality experience as the national park in terms of this factor. However, more explicit perceptual definition of what constitutes attractive surroundings is required. The 16 percent who saw other people as essential to skiing enjoyment is low when compared to the image skiing has of a recreation in which social intimacy, in the form of apres-ski activities, is a hallmark.

Quality of Ski Facilities in the Park: Skiers were also asked to assess the quality of the present ski facilities on the basis of five categories. These and the skiers' responses are represented in Table XIII.

TABLE XIII

## SKIERS' ASSESSMENT OF SKI FACILITIES

| Excellent | Fairly Good | Adequate | Inadequate | Poor |
|-----------|-------------|----------|------------|------|
| 20        | 43          | 34       | 3          | 0    |

Only 3 percent thought the ski facilities less than adequate and would therefore be definitely dissatisfied with this aspect of activity quality. 63 percent rated them as fairly good or excellent, and this response indicates that the ski facilities provide a satisfactory level



of recreational quality for the majority of skiers. In the interviews it was indicated that the skiers should assess the facilities where they were interviewed rather than the ones in the area they generally used. The assessment of quality by skiers for each ski area is shown in Table XIV.

TABLE XIV  
SKIERS' ASSESSMENT OF SKI FACILITIES  
IN EACH SKI AREA

|               | Excellent | Fairly<br>Good | Adequate | Inadequate | Poor | % of Skiers |
|---------------|-----------|----------------|----------|------------|------|-------------|
| Lake Louise   | 6         | 16             | 11       | 1          | -    | 34          |
| Sunshine      | 12        | 14             | 6        | 1          | -    | 33          |
| Mount Norquay | 2         | 13             | 17       | 1          | -    | 33          |

Effect of Crowding on Activity Quality: The ORRRC Study found that most frequent cause of dissatisfaction with skiing activity was crowding. This was followed by dissatisfaction about expense and the weather (ORRRC Study Report 20, p. 37). Crowding in the ski areas of the national park had at some time affected 60 percent of the respondents and caused a decline in enjoyment for 52 percent of them. The dissatisfaction expressed about crowding varied between individuals and was not constant. People were asked at what point the slopes became crowded in terms of general numbers or number of people in specific areas. They found this almost impossible to do. One method of achieving this would be to count the number of visitors on various days and then find the proportion of a sample of skiers who saw the area as too crowded.



By relating users' perceptions to the numbers involved, some approximation of a quality-quantity relationship could be formed.

Much of the decline in satisfaction came from the line-ups for lifts and tows. Many of those who were occasionally dissatisfied with "waiting for tows" suggested that more lift and tow facilities be built. Such a measure would have few implications for the park landscape for it would be accommodated in an area already used extensively. However, the dangers of over-supplying facilities on the basis of present users' opinions has already been noted in Chapter IV.

At present the decline in quality caused by crowding is not serious. It may become so with increases in future use. This could cause a decline in satisfaction of a different nature. Whether this is true or not, the number of people who already feel that at times the slopes are too crowded adds a qualitative dimension to statements that ski areas can work at fuller capacities. Thorsell stated that in 1967 and 1968 Lake Louise was working at only 16 percent of its optimum, Sunshine at 67 percent and Mount Norquay at 35 percent (Thorsell, 1968b, p. 13). The effect of the increase to optimum capacity on users' satisfaction and the quality of recreational experience would have to be considered.

#### Skiers' Preferences for Alternatives to Relieve Overcrowding:

After the skiers had assessed the quality of the ski facilities they were asked if they wished to see them expanded. 76 percent responded that they would, 20 percent stated they did not, and 4 percent were unsure. Surprisingly the number who advocated the expansion of ski facilities increased by very little when skiers were asked how the national park management should relieve any future overcrowding. Table XV shows the



preferences skiers have for a number of alternatives to achieve this.

TABLE XV

SKIERS' PREFERENCES FOR MANAGEMENT ALTERNATIVES  
TO RELIEVE OVERCROWDING

| Alternatives   | % of Skiers' Preferences<br>Preferring This Action |
|--|--|
| Building more ski facilities                               | 78   |
| Start a reservation scheme for the<br>ski slopes           | 4  |
| Limit the time on the slopes                               | 1  |
| Take the ski slopes out of the park and<br>use other areas | 10   |
| Establish an entrance limit                                | 2  |
| Charge higher fees   | -  |
| Leave things to work themselves out                        | 5  |
| Any other  | 0  |

A large majority were in favor of building more ski facilities to relieve overcrowding. In addition, of those people who stated facilities should be taken out of the park and other areas used, all but two added the proviso that the present facilities should remain. In expressing other preferences the skiers' dissatisfaction with expenses mentioned by ORRRC (ORRRC Study Report 20, p. 37), received some support from the survey. None of the skiers wished to have higher fees charged.

i. Other Recreational Uses in Banff National Park in which  
Skiers Take Part

Important in considering the relationship that the downhill





skier has with the park is the extent to which he engages in other types of recreational uses in the park. If the skier also constitutes another recreational user then any restriction of his activity or 'education' designed to offset the impact of skiing on the park resource may be rendered less difficult. The survey found that 85 percent of the skiers in the national park also use it for other recreational activities. Table XVI displays the nature and extent of those uses. It is significant that, with the exception of other winter sports, the other uses skiers engage in are summer activities.

TABLE XVI  
RECREATIONAL USES ENGAGED IN BY SKIERS IN  
THE NATIONAL PARK

| Uses                             | % of Skiers Participating |
|----------------------------------|---------------------------|
| Other Type of Use Besides Skiing | 85                        |
| Hiking                           | 33                        |
| Swimming                         | 18                        |
| Camping                          | 28                        |
| Fishing                          | 17                        |
| Climbing                         | 12                        |
| General Social Activities        | 13                        |
| General Visiting/Sightseeing     | 29                        |
| Trail Riding                     | 3                         |
| Other Winter Sports              | 16                        |
| Painting                         | 1                         |
| Boating                          | 1                         |



## SKIERS' PERCEPTION OF THE NATIONAL PARK

This section focuses on the skiers' perception of the national park resource and its components and uses. In addition, it also assesses factors influencing perception including the skiers' knowledge, opinion, and preferences.

a. Knowledge of the Park Purpose

The skiers were given five alternatives and asked to select the official purpose of the park from these. The alternatives and responses are shown in Table XVII.

TABLE XVII

## SKIERS' KNOWLEDGE OF NATIONAL PARK PURPOSES

| Alternatives   | % of<br>Skiers'<br>Responses | % of<br>Conservationists'<br>Responses |
|--|------------------------------|--|
| 1. General recreation area for all<br>Canadians and their recreation needs                 | 17                           | 4                                      |
| 2. Natural areas preserved unaffected for future generations                               | 3                            | 24                                     |
| 3. Natural areas preserved unaffected but with recreational uses where these are necessary | 49                           | 48                                     |
| 4. Natural areas for wildlife preservation and mountain recreation                         | 24                           | 16                                     |
| 5. None of these   | 6                            | -                                      |
| 6. Don't know  | 1                            | 8                                      |



49 percent selected the correct alternative, number three, 52 percent of the sample knew that the national park was a national area which was to be preserved unaffected, and 76 percent can be considered as being aware that the national park was in some sense a natural area. 4 percent who selected alternative number five indicated that they knew the park had a purpose but had no idea what it was except that they thought it was not any of the alternatives. While the other 2 percent stated the parks did not have an official purpose. Skiers' knowledge of the parks purpose compares very favourably with that possessed by the Conservationist group. As Table XVII shows only 48 percent of the conservationists chose the correct definition of the parks purpose. Skiers' knowledge of the park is higher amongst those who are better educated and those who use the park on an intensive basis.

b. Skiers' Perception of the Park as  
Wilderness

The national park was viewed as a wilderness area by 44 percent of the skiers. Ideally, research on wilderness perception would be concerned with identifying areas of wilderness and ascertaining the elements which comprise wilderness. The perception of skiers who saw the park as a wilderness area may reflect two different interpretations. On the one hand, it could reflect a perception of the park as wilderness in the sense that these areas are more extensive than areas of cultural facilities. On the other hand, it may reflect a perception of wilderness that defines it in a sense of the predominance of the natural over the man-made. From further conversation with the skiers it is more likely that the former is the case. Many of the users, 37 percent, who described the national park



TABLE XVIII

## KNOWLEDGE OF PARKS PURPOSE IN RELATION TO:

## i) EDUCATION

| Education Level | % of Sample | % with Knowledge of Parks Purpose |
|-----------------|-------------|-----------------------------------|
| Grade 8 - 12    | 12          | 1                                 |
| Grade 12        | 34          | 19                                |
| University      | 54          | 29                                |

## ii) INTENSITY OF USE

| Intensity of Use               | % of Sample | % with Knowledge of Parks Purpose |
|--------------------------------|-------------|-----------------------------------|
| Less than                      |             |                                   |
| 1. Once a month                | 16          | 6                                 |
| 2. About once a month          | 10          | 1                                 |
| 3. Two or three times per week | 16          | 9                                 |
| 4. Weekly                      | 28          | 17                                |
| 5. More than once a week       | 10          | 8                                 |
| 6. Vacation                    | 20          | 8                                 |





as wilderness would not describe the area they skied in as wilderness. 94 percent of skiers did not view the area they skied in as wilderness. This provides a contrast with those ski-touring at Glacier, where 43 percent considered the area of minimum facilities they skied in as wilderness (Marsh, 1969b, p. 21).

It can be stated that skiers did not view the area they skied in as wilderness though they were split on whether the park as a whole was a wilderness area. In the latter sense they did not differ significantly from the comparison group of conservationists. 36 percent of this latter group described the park as a wilderness area.

c. Perception of Wildlife and Other Park Uses

Skiers differed with the conservation group more substantially in the perception of wildlife, an important component of the park resource, and other uses of the park. The questions relating to the degree of awareness of these two aspects were the only open-ended ones in the questionnaire. They thereby posed a problem of classification and evaluation. A measure of the degree of skiers' awareness of wildlife was determined by developing a simple scale with numerical values assigned to wildlife on the basis of its interaction with visitors.

The wildlife resource was taken to mean the larger mammals of the national park. Some of these can be readily seen by the average visitor, while others do not often come into contact with humans. The mammals which were more readily seen and which users could be expected to be aware of were given a value of two. Wildlife occupying more remote habitats were assigned a value of three. The score obtained by each user was ranked against a list of mammals cited in the standard Banff



National Park tourist pamphlet. This list provided a scale with a maximum value of fifty. The wildlife components and their values are represented in Table XVIII.

The list is not comprehensive but it does provide a base for the measurement of awareness. Mammals that were mentioned and not contained in the list were assigned a score of three. Invariably mammals in this category were relatively remote from contact with the average visitor.

Skiers' perception of other uses in the national park was evaluated in a similar way. The recreational activities cited in the national park's tourist pamphlet was taken as a basis and in addition scientific and educational uses were added. The components of this scale are shown in Table XVIII.

There are limitations to this method of evaluating users' perceptions of the park resource and its use. One of the major difficulties of perception as a research tool, is measurement. Perceptions are invariably evaluated in a non-quantitative form because of the nature of responses to the questionnaire or interviewer. Given that the responses of the skier represents his level of awareness, classifying them in the above way gives a more objective measure than qualitative interpretation by the writer. It must be admitted, of course, that the very act of classifying on this basis gives a subjective influence from the writer. The method was devised because of the lack of alternative techniques. Its simplistic nature is recognized but it is considered a valid method of classification and comparison given the present state of knowledge in the field.



TABLE XVIX

## COMPONENTS OF THE WILDLIFE AND PARK USES AWARENESS SCALE

| <u>WILDLIFE</u>            | <u>USES OF THE PARK</u> |
|----------------------------|-------------------------|
| 1. Black Bear              | 1. Social               |
| 2. Elk                     | 2. Riding               |
| 3. Deer                    | 3. Boating              |
| 4. Moose                   | 4. Fishing              |
| 5. Rocky Mountain Sheep    | 5. Nature Observation   |
| 6. Rocky Mountain Goat     | 6. Swimming             |
| 7. Coyote                  | 7. Sightseeing          |
| 8. Squirrel                | 8. Camping              |
| 9. Chipmunk                | 9. Winter Sports        |
| 10. Porcupine              | 10. Hiking              |
| 11. Marmot                 | 11. Photography         |
| 12. Pika                   | 12. Golf                |
| 13. Beaver                 | 13. Tennis              |
| 14. Grizzly Bear           | 14. Scientific          |
| 15. Marten                 | 15. Educational         |
| 16. Mink                   |                         |
| 17. Weasel                 | Components have a       |
| 18. Mountain Lion (Cougar) | total value of 15.      |
| 19. Lynx                   |                         |
| 20. Badger                 |                         |
| 21. Wolverine              |                         |

---

1 - 13 have a value of 2

14 - 21 have a value of 3

Components have a total  
value of 50.

---



When skiers' perception of the wildlife were ranked they had both a lower mean and a lower maximum score than the conservationist group (Table XX). The same situation occurred with respect to perception of other park uses (Table XXI). Despite the fact that they used the park environment more intensively, skiers were less aware of important components in it than the conservationist group. There were no differences in awareness between skiers who used the park intensively and those who did not. However, that skiers were less aware than conservationists of other uses, is particularly surprising because of the large majority who engaged in other uses. The lower degree of awareness that skiers had of the parks wildlife resource and other park uses, compared to the conservation group, was reflected in skiers' perception of their relationship with the park resource and with other uses and recreation activities in the park.

TABLE XX  
PERCEPTION OF WILDLIFE

|                  | Total | Minimum | Maximum | Mean | Standard Deviation |
|------------------|-------|---------|---------|------|--------------------|
| Skiers           | 50    | 4       | 17      | 9.9  | 3.3                |
| Conservationists | 50    | 4       | 26      | 15.3 | 5.6                |

TABLE XXI  
PERCEPTION OF OTHER PARK USES

|                  | Total | Minimum | Maximum | Mean | Standard Deviation |
|------------------|-------|---------|---------|------|--------------------|
| Skiers           | 15    | 1       | 6       | 3.6  | 0.64               |
| Conservationists | 15    | 0       | 13      | 6.2  | 2.6                |





d. Perception of Skiing's Relationship with the Park Resource

The large majority did not view skiing as harmful to the vegetation or wildlife of the national park (Table XXII). This view contrasts with that held by conservationists nearly half of whom viewed skiing as harmful to vegetation, and three-fifths of whom saw it as interfering with wildlife (Table XXII).

TABLE XXII

PERCEPTIONS OF SKIING'S EFFECT ON THE PARK RESOURCE

|                              | % of Skiers |    | % of Conservationists |    |
|------------------------------|-------------|----|-----------------------|----|
|                              | Yes         | No | Yes                   | No |
| Skiing harmful to vegetation | 7           | 93 | 48                    | 52 |
| Skiing harmful to wildlife   | 2           | 98 | 60                    | 40 |

Skiers' responses indicate that they are unaware of their adverse effects on the park resource. However, the presentation of only two alternatives could be responsible for the higher proportion of negative responses than otherwise might have been obtained. It should be noted that in addition to those people who viewed skiing as harmful to vegetation and wildlife, 6 percent of the respondents thought the activity could affect both if it was not "kept within limits". Though no one had any idea what the limits were. When the 7 percent who viewed skiing as harmful to vegetation were asked how it was harmful, all stated it "broke down" or "wears away" grass. Only one person mentioned, in addition, the effect on tree cover of cutting ski-runs. The 2 percent who viewed skiing as interfering with wildlife had the view that contact with humans "disrupted" wildlife.



All of the skiers viewing the activity as affecting vegetation had a perception ranking above the mean on both the wildlife and the parks uses scale. The scores of these respondents ranged from twelve to seventeen in the wildlife scale compared to the scores of all skiers which were between four and seventeen (Table XX). Also the skiers who viewed skiing as potentially harmful if developed, had scores on the wildlife perception scale above the mean. Though these were in a lower range, ten to thirteen. Similar results were found on the park uses perception scale. These results indicate that those people who are more perceptive of the park have an increased awareness of their own environmental effects. However, given the small numbers involved and the limitations of technique this situation needs more study.

The general majority of skiers see themselves having no adverse effects on the park resource. This view clashes with the effects of skiing on vegetation and wildlife that have been noted in Chapter V. However, because no specific studies on the effects on the park resource of this and similar activities have been undertaken, it is difficult to assess the degree or the seriousness of the skiers' failure to perceive their environmental effects. Without knowledge of the physical dimensions of wildlife habitat alteration and vegetation change in the national park no comparative measurement can be made.

e. Perception of Skiing's Relationship with Other Park Uses

None of the skiers interviewed viewed other park uses interfering with skiing. Generally this concurs with evidence available. However, a small section of the respondents, some 8 percent, mentioned voluntarily that snowmobiles should be kept out of the park. Those



people who felt this way exhibited antagonism towards snowmobiles in the park because they felt it "would ruin the park for everybody else", both because of "noise" and the fact that they saw snowmobiles "could go anywhere". However, they saw no direct conflict between downhill skiing and snowmobiling at present. Yet this possibility is present as evidenced by a report that a skier in Banff National Park broke his leg on reaching snowmobile ruts (Marsh, 1969b, p.2), but whether this occurred in a downhill skiing area or during the course of ski touring is not stated.

While the view that other uses do not interfere with skiing is reasonable, the opposite view that skiing does not interfere with other uses is more questionable. Nevertheless 97 percent of the skiers did not see skiing interfering with other uses of the park. Though approximately half of the skiers know the official policy of the park and a further number are aware of the preservation function of the park. The 3 percent who viewed skiing as interfering with other uses indicated that it would affect the preservation of the natural environment. One person mentioned the effects of ancillary services and access roads in the landscape. In addition, 4 percent of the sample mentioned that skiing could conflict with the natural landscape if it was expanded or "not controlled".

All seven of the people who viewed skiing as affecting or potentially affecting preservation had both a knowledge of the park (six) or viewed it as having a preservation component (one), and had scores above the mean on both scales of perception. None of the respondents who viewed skiing as affecting vegetation or wildlife were included in the group who saw skiing as conflicting with the maintenance of the



natural landscape. Though three people who viewed skiing as potentially harmful to vegetation and wildlife also viewed it as potentially harmful to preservation. The significant fact was that the large majority of skiers did not perceive skiing affecting preservation of the natural landscape.

There are a number of other uses which skiing could be in active conflict with, including the affect of ski areas on sightseeing by summer visitors. The possible effects of this are discussed in Chapter VIII.

f. Skiers' Preferences for Developments in the Park

To assess the degree to which skiers favoured the development of facilities in the park, they were asked to state which facilities and alterations they would like to see made available in it. The skiers' preferences for a number of developments ranging from an entertainment-exhibition ground to more wilderness areas are represented in Table XXIII. The preferences of the conservationists are also included for comparison.

TABLE XXIII

SKIERS' PREFERENCES FOR VARIOUS DEVELOPMENTS IN THE PARK

| Development                           | % of<br>Skiers<br>For This | % of<br>Conservationists<br>For This |
|---------------------------------------|----------------------------|--------------------------------------|
| a) Entertainment-Exhibition<br>Ground | 14                         | -                                    |
| b) More townsite Services             | 14                         | 12                                   |
| c) More Hiking Trails                 | 36                         | 64                                   |
| d) Winter Sporting Complex            | 54                         | 12                                   |

...continued





TABLE XXIII continued

| Development                    | % of<br>Skiers<br>For This | % of<br>Conservationists<br>For This |
|--------------------------------|----------------------------|--------------------------------------|
| e) More Paved Wilderness Roads | 19                         | 20                                   |
| f) Wildlife Paddock            | 9                          | 12                                   |
| g) More Wilderness Areas       | 18                         | 12                                   |
| No Developments                | 15                         | -                                    |

Only 2 percent of the sample expressed incompatible preferences, for example an entertainment exhibition ground and more wilderness areas. 14 percent of the skiers had a preference for the development of entertainment-exhibition ground and can be considered as definitely development-oriented. 2 percent chose this preference for development without others, the rest included this preference in combination with more townsite services and a winter sporting complex. 76 percent of the sample chose some kind of facilities-oriented development. All of those people who preferred to see an expansion of the wilderness area also wished to see other developments such as more paved roads or a winter sporting complex. In other words, they were not aware of the basic incompatibility of their preferences. 15 percent wished for no development and were "content with the park as it is".

Despite the preferences of the majority for some kind of facilities-oriented recreation, skiers cannot be classed as preferring the development of the park as a playground. With the exception of a winter sporting complex the majority had only one kind of facilities-oriented preference and this was usually in conjunction with more resource-oriented preferences.



## SOME IMPLICATIONS OF THE STUDY FINDINGS

Skiers' activity characteristics and their perception of these and of the national park have a number of implications for the park resource and its management. The study found that the majority of skiers that visit the national park, particularly outside of vacations, do so on a moderate to high intensity basis. This indicates that total skier visits to the national park reflect a much smaller number of actual users, the large majority of whom are from Calgary. In this sense the skiing population can be considered as having an effect on the park resource which is very disproportionate to the number of people deriving benefit from the activity.

Certain of the skiers' activity characteristics may have repercussions on the park resource, particularly with future increases in use. The majority of skiers prefer to use a combination of slopes and future increases in use will mean a proportionate increase in slope type and area will be necessary to maintain skier satisfaction. The expansion of area to maintain present levels of activity satisfaction are also indicated by the decline in activity quality caused by crowding. The large majority of skiers also prefer management to extend the present ski areas and build more if future overcrowding required it. Obviously the view of skiers and their future preferences pose problems of maintaining the natural landscape.

Given the fact that the large majority of skiers view physical conditions and ski facilities as essential requirements, relocation of ski areas outside of the park would result in a decline in activity quality. While capital investment in facilities can be made anywhere, within



ordinary economic constraints, the development of physical conditions on an extensive basis cannot. The best ski terrain in the province lies near the Rocky Mountain Divide. But the whole of this region which is directly accessible from the main area of population is occupied by national parks (see Fig. 1).

The skiers' perceptions of the national park permit some conclusions about the nature of their interaction with the park resource. Skiers are generally less perceptive of both the wildlife resource and other park uses than the conservationist group. The latter is surprising in view of the fact that 85 percent of the skiers also used the park in other ways. The large majority of the skiing population do not perceive the effect of skiing on wildlife and vegetation. Nor are they aware of the present interference of their activity with the preservation of a natural area, despite the fact that nearly half of the respondents knew the park's purpose and 76 percent had some awareness of the park as a natural area with a preservation purpose.

Skiers can be assessed as having an activity bias which influences their perception of the activity's effect on the park resource. The skiers' perceptions of what are suitable uses indicates that skiing is viewed as a resource-oriented use. Though skiers have little cognizance of the implications and impact of their activity on the park resource their preferences for developments in the park do not indicate any preference for the maximum recreational development of it.

Skiers have a bias, quite naturally, in favour of their own activity which results in a failure to perceive their effects. However, the study findings suggest they may be amenable to an educational campaign designed to make them aware of skiing's impact on the park resource.



Skiers are both generally other users of the park at other times and possess an above average education.





## CHAPTER VIII

VISITORS' PERCEPTION OF THE IMPACT OF SKI-FACILITIES  
ON SCENERY

## INTRODUCTION

During the winter, skiing attracts sightseers and general visitors in addition to those participating in the activity. Though skiing attracts sightseeing visitors in winter the effect of the permanent alterations of the landscape has an unknown effect on the summer visitor who comes primarily for sightseeing. This survey was undertaken to try to assess the impact of ski-facilities on the summer visitors' scenic viewing.

The park landscape involves a complex of real elements which yield a specific imagery (Sonnenfeld, 1966, p. 72). The values accruing to visitors who observe this landscape depend upon the nature of the interaction between people and the park resource (Twiss and Litton, 1966, p. 76). This can be ascertained by evaluating the perceptions of the observer.

While the visitors' enjoyment of the landscape comes from a composite of factors which can be assessed in terms of scenery, natural beauty, and visual quality, evaluating these is extremely complex. People's perceptions differ, and they ascribe different values to the landscape. This study asks only if visitors perceive the landscape as being one of scenic beauty, and what the effects of ski-facilities are on this view and their enjoyment of it.



## STUDY METHOD

Visitors' perceptions were evaluated by interviews, conducted by the writer on the basis of a questionnaire. They took place in August, 1969, and were based on two groups of summer visitors. Interviews were carried out in both Banff townsite and the Mount Norquay ski area. The questionnaire was similar for both groups, though differences existed (see Appendix II and III). Because of the small proportion of summer visitors involved in the survey it provides no more than an indication of the effect of ski facilities on visitors' sightseeing enjoyment.

### BANFF TOWNSITE SURVEY

#### a. Methodology

One hundred interviews were conducted during the period August 18th to 22nd, 1969. Fifty of these were administered on the weekend and fifty on weekdays. Visitors were chosen on the basis of every tenth person who passed the interview point, after the completion of the prior interview. The interview position was adjacent to the National Park Tourist Office. Apart from the discrimination involved in the short time period of the survey, there was a geographical bias in the interviews. They discriminated against those who did not visit the townsite and this may have particularly involved those using back-country areas. However, the survey was aimed at a particular type of visitor, the general tourist, whose main aim was sightseeing, and who provides the majority of visitation to the national park.

Only two people refused to cooperate in the survey, though 5 percent of the interviews were invalidated by communications problems



with the respondents. In addition, over 11 percent of the respondents did not realise there were ski areas in the national park. These people were still asked to assess the probable effect of ski areas on their view of the scenery. In addition to assessing the impact of ski areas on visitors' perceptions of scenery, the questionnaire also evaluated socio-economic data and visitors' use characteristics. These characteristics furnish some indication of the type of summer visitor and the nature and duration of their use of the park.

b. General Characteristics of the Summer Visitor

From the general characteristics of summer visitors three significant points emerge. The first is the high percentage of summer visitors from outside Alberta. Nearly one-third were from the United States as Table XXIV shows.

TABLE XXIV  
DISTRIBUTION OF SUMMER VISITORS

| Alberta | B.C. | Canada | United States | Foreign |
|---------|------|--------|---------------|---------|
| 25      | 15   | 15     | 30            | 15      |

The second point is that 63 percent of the visitors had a university education. Thirdly, the majority of visitors (54 percent) were in managerial, technical or professional positions and nearly one-quarter (24 percent) were at university. Occupation is a strong indicator of income level, which in turn usually determines the availability of a paid vacation and hence the opportunity to visit areas such as national parks. The high percentage of visitors with a university education was expected. Education is a strong factor in outdoor recreation participation rates



(ORRRC Study Report 20, p. 11). In addition, national park areas show an above average number of visitors at the higher education level (ORRRC Study Report 5, p. 16).

c. User Characteristics

75 percent of the visitors sampled came from outside Alberta and can be classed as vacationists. The figure was probably in excess of 75 percent when residence is considered in relation to duration of stay. 24 percent were staying only one day, 42 percent for a weekend and 34 percent for over three days. However, only 8 percent of the people staying a day could have visited the park on a day trip. These people all lived within a day's travel of the national park, i.e. they were from Alberta or eastern British Columbia. Over one-half of the people staying only a day in the national park were from outside Alberta. They presumably visited the national park as part of tourist travel in the area.

The large majority of the sample stated general sightseeing was the purpose of their visit to the national park. Only 3 percent came for a specific recreational activity, in each case this was hiking. The purpose of their visits is summarized in Table XXV.

TABLE XXV  
PURPOSE OF VISIT

| Sightseeing | Particular Activity |            |        |
|-------------|---------------------|------------|--------|
|             | Summer Work         | Conference | Hiking |
| 83%         | 8%                  | 6%         | 3%     |

Mount Norquay ski area had been visited by 24 percent of the





people interviewed. In addition, one person had visited Lake Louise ski area and one person had visited Sunshine. No figures are kept by the national parks of visits to ski areas in the summer but the figures indicate that the Mount Norquay area receives visits from a sizable proportion of summer visitors.

Those who visited Norquay stated the purpose of their visit was sightseeing. The road to the Mount Norquay ski area provides a number of view points of the townsite and the surrounding valley. The cable car lift between the lower and the upper terminal on Norquay is open during the summer. It is used by visitors for the panoramic view the summit provides of the Bow River Valley and the surrounding peaks. Mount Norquay summit is classified by the Canada Land Inventory as a Class I viewing point, i.e. a vantage point which provides a superior view of the landscape (Canada Land Inventory, 1967, p. 99). This classification means that the area has a very high capability to engender and sustain very high total annual use based on intensive activity. The more moderate slopes on Norquay have a lower classification (Canada Land Inventory, 1967, p. 94).

Though all of the respondents who visited Norquay stated their main purpose was sightseeing, 4 percent of the sample also visited the area because of "user interest" and 2 percent came because it was a "tourist attraction". They explained the latter as something that "ought to be visited".

#### d. Perceptions of the Park and Ski Facilities

All the people interviewed rated the national park as an area of scenic beauty. 96 percent of the respondents saw it as outstanding.



When asked to assess the effect of ski facilities on the park's scenic beauty 67 percent saw them as neither detracting from nor enhancing the scenery. 30 percent stated they affected the scenery while 3 percent had no view. Of the 30 percent who viewed ski areas as affecting the scenery, 21 percent saw them as enhancing the scenery and 9 percent as detracting from it. Those who viewed the ski areas as a detraction all mentioned its effect on the natural aspect of the scenery. Comments included "not natural", "mars the natural landscape" and "affects the natural beauty".

All the respondents who saw the ski-facilities as detracting from the scenery were non-skiers. 77 percent of the respondents were non-skiers and 23 percent were skiers, though approximately three-quarters of the skiers had never skied at Banff. The number of skiers is abnormally high; the ORRRC Study found that only 6 percent of the United States population took part in skiing (ORRRC Study Report 20, p. 95). Significantly skiers composed approximately three-quarters of those respondents who saw ski facilities enhancing the landscape.

All of the skiers who thought the ski facilities enhanced the landscape mentioned the attraction and familiarity of ski areas; "used to ski areas" was a typical skier's comment in specifying how the facilities affected scenic beauty. It seems as if the involvement in the activity of skiing may have a considerable bearing on a skier's perception of a mountain landscape such as Banff provides even in summer. However, in view of very limited data the sample size this is an extremely tentative hypothesis, and one that needs considerably more rigorous methods of testing and evaluation.

The 6 percent of respondents who were non-skiers and who saw the



landscape enhanced by the inclusion of a ski area mentioned "atmosphere" and "people" as enhancing the area. How this enhanced their view of the landscape's attractiveness they found difficult to articulate but nevertheless there was a strong association. In addition, 6 percent of the sample who thought the ski areas enhanced the scenery did so because it added "open space" to the "tree covered areas". This gave the area a different aspect from nearby areas. All of this group were skiers.

#### MOUNT NORQUAY SKI AREA STUDY

##### a. Methodology

Fifty interviews were carried out to assess the purpose of visits to the ski area and the way in which visitors assessed the effect on the scenic value of the area. Visitors were selected on the basis of every tenth person passing the entrance to the lower cable lift terminal car park at Norquay. Biases were involved in both the short time period of the survey and in the fact that the interviews were administered only on a weekend. A weekend interview period was selected to assess the proportions of tourists and Albertans using the area on summer weekends. There were no problems of non-response in the survey and because of the limited area, problems of spatial bias in interviewing were negligible.

##### b. General Characteristics

The type of person who visited the Norquay ski area on a weekend differed from the visitor interviewed in the townsite. The distribution of visitors is shown in Table XXVI.



TABLE XXVI  
PLACE OF RESIDENCE OF VISITORS TO  
MOUNT NORQUAY SKI AREA

| CALGARY | REST OF<br>ALBERTA | B.C. | REST OF<br>CANADA | U.S. |
|---------|--------------------|------|-------------------|------|
| 64%     | 8%                 | 4%   | 12%               | 12%  |

72 percent of the visitors were from Alberta, with 64 percent of these coming from Calgary. The high proportion of Calgary visitors explains the large percentage of day visitors. 64 percent of those interviewed were staying a day, 22 percent two days and 14 percent three days or more. The 64 percent whose visit was one day's duration was not synonymous with the 64 percent who came from Calgary because 6 percent of the latter had come for a stay of several days.

There were also differences in levels of education and occupation between visitors to Norquay and those encountered in the townsite survey. Only 22 percent of the visitors had a university education and 38 percent had a grade eight or lower education. The percentage of people in service and craftsman occupations was much higher than in the townsite survey and only 26 percent of the visitors were employed in professional, and managerial or technical positions.

Both of these factors reflect the timing of the survey. The weekend was the time when the influx of day and weekend visitors from the surrounding area would be greatest. People who use the national park as a regional recreation area need not have similar socio-economic characteristics to those of vacationers visiting the park. The high number of day visitors from Alberta underlies this consideration.





c. User Characteristics

Sightseeing was the main purpose of visiting the national park for all the respondents. This was also the purpose of the visit to the Norquay ski area for all those interviewed. 96 percent of the sample visited Mount Norquay because of the scenery and the viewpoints the area provided. 4 percent came because the area was "a tourist attraction". When asked to state what characteristics had caused them to come to the Mount Norquay ski area the visitors responded with an amalgamation of three factors, the viewpoints and scenery provided by the area, the cable car, and nearness to the townsite. The first and second were closely associated. A noticeable factor was that people did not differentiate between scenery in and proximate to the area and the viewpoint the area provided. The cable car lift was responsible for attracting 40 percent of the visitors, though this was a means of access to a spectacular viewpoint rather than an attraction in itself. The existence of ski facilities was mentioned by only 4 percent as a feature attracting them.

d. Visitors' Perceptions

64 percent of the visitors did not see the ski facilities affecting their enjoyment of the park and 30 percent thought they had a beneficial effect. The respondents were vague about the nature of the beneficial effect. They tended to relate it more to convenience rather than to any aesthetic increases. This may indicate the secondary importance of natural scenery compared to an area containing some facilities in addition to elements of natural scenery for some visitors.



All but one respondent viewed the national park as an area of great scenic beauty. 94 percent saw the existence of ski facilities as compatible with the scenic values of the national park. Of the 6 percent who disagreed, none wished to see the ski facilities removed, because they were skiers themselves or did not wish to spoil the activity of others. 16 percent of the visitors were skiers and 12 percent normally skied at Banff. 18 percent of the respondents stated that they had used or were going to use hiking trails. These might have been expected to have a bias for natural scenery but what constituted hiking trails was not defined, and it is probable that the majority would be in the townsite area. Both skiers and 'hikers' showed no degree of difference in viewing the effect of ski facilities on the scenic landscape.

#### THE SUMMER SURVEY: SOME COMMENTS

The value of the summer survey was limited to the specific objective of assessing whether or not ski areas affected the summer visitors' view and enjoyment of the landscape. It found no degrees of differentiation in impact on the landscape nor any indication of what the effect of more ski areas might be. Because of the patterns of visitation in the park the term ski area invariably referred to Mount Norquay. Sunshine and Lake Louise are not seen in the course of the average visit. Generalizations concerning the national park as a whole are not valid. However, in most cases the majority of visitors only use the townsite areas and the highway network.

The overwhelming majority of people interviewed did not see ski areas detracting from scenic beauty. This response poses a number of questions concerning visitors' criteria of scenic beauty, particularly



in relation to natural and wilderness factors involved. They also have implications for the continuance of the national parks preservation function. However, there is a severe lack of knowledge concerning man's aesthetic relationships with the recreational environment. No studies are available in this field against which some comparison can be made.

The view of Banff as an area of scenic beauty which was not affected adversely by ski facilities had one hundred and forty adherents out of a total of one hundred and fifty people interviewed. In addition, 23 percent of all respondents viewed ski facilities as enhancing the scenery. These responses indicate that Lowenthal's opinion that "lived in landscapes" are preferred to natural ones may be valid (Lowenthal, 1962-63, p. 20). The tendency to place values, including beauty, in natural and wild areas is recent and only found expression in public policy in the twentieth century (Lucas, 1966, p. 116). In the case of the visitors interviewed it seems that scenic beauty is not viewed in terms of its lack of human influence.

What the responses of visitors to the impact of ski areas on the landscape indicate is that the exclusion of ski facilities from Banff National Park on the basis of aesthetic impact is not justifiable in terms of their effect on the majority of visitors. This study points the way to more comprehensive research on the perceptions users have of scenery, natural beauty and visual quality in the park environment.

The implications for the preservation of the park resource, suggested by the above findings are important because the development of a more humanized landscape in the park may well have the support of the majority of users.



## CONCLUSION

This study has clarified both some of the problems facing Banff National Park, and the problems involved in perception as a research technique. However, the study has probably raised more questions than it has answered. This is particularly so in the field of perception.

Questions concerning the theory behind the concept of perception centre on the argument that the concept is valid only to the extent that the major components of the perceptual process are understood. At present these are not well known and the interactions between them are virtually unknown. How the individual's perception of environment is acquired, altered, and integrated into conceptual systems and translated into environmental behavior remains to be discovered.

That so little is known about perception and how this actually affects the use of the environment accounts for many of the practical difficulties in using perception as a research technique. The practical application of the concept, too, has a number of drawbacks. Of these the major one is the difficulty of measuring perception. The limitations of the questionnaire used in this study are recognised. Though the questionnaire technique has a number of shortcomings in evaluating perception, a review of alternative methods does not suggest a comparable substitute. These methodological gaps may be filled by new types of measurement instruments borrowed from the behavioral sciences but how amenable these will be as a research technique for geographers in the field is a matter of conjecture.

The analysis of skiers' perceptions made it clear that their







evaluation would have been made easier if precise physical and ecological parameters pertaining to the effects of impairment were available. These would have provided the analysis with an objective base. In lieu of such a base the skiers' perceptions were compared with a group who had had a formal exposure to the conservationist point of view and with past perceptions of the park and its use.

The historical perceptions of the park and its use were evaluated on the basis of the land uses and functions that had occurred within the park, and on attitudes and ideas that were expressed in legislation and published writings. The examination of past perceptions by reference to writings raised the question of how representative they are. For example, how representative of the perception of the majority of park visitors was the Park Superintendent's view of the mining town of Bankhead as a tourist attraction? The dangers of misrepresentation are lessened when such views can be related to concrete landscape actions that were taken with reference to them such as occurred in the national park.

The application of the concept of perception to practical studies is still in its infancy and theoretical and methodological deficiencies are expected. Despite the limitations that have been discussed in this study, a number of conclusions on skiers' and summer visitors' perceptions can be made because of the concreteness of the issues and the specific environment involved.

The study found that skiers as a group failed to perceive the nature of their relationship with the national park accurately. They are unaware of the impact and effects of their activity on the vegetation and wildlife, in particular the lack of preserving the park landscape in general. This is interrelated with their view of skiing as a resource-



oriented recreation, which by previous definition causes minimal effects on the natural landscape.

Though skiers are unaware of the effects of their activity, and have preferences for the development of certain kinds of facilities-oriented recreation, they do not perceive the park in terms of maximum development. They remain unaware of the logical outcome of development of facilities in the park but do not interpret the park as a playground as is done by certain agencies.

The hypothesis that skiers have an "exploitive" perception of the park in the sense of it being similar to that shown by early economic exploiters cannot be substantiated. Rather than having a view of the park resource as an entity to be totally developed and financially exploited, the skiers' perceptions are more akin to the perceptions which characterized the period 1911 to 1945. In that period, though the indications are that the natural landscape was protected to facilitate recreational activity, the dichotomy between use and preservation was not perceived.

Both the analyses of skiers' perceptions and the factors involved in the problems between development and preservation can be applied by park management to conflicts in the park. Before discussing the application of the findings it should be stressed that an extensive range of research projects involving all users of the park is desirable. This would facilitate comparison between uses and give management a wider range of alternatives in choices to maintain park quality.

#### THE APPLICATION OF STUDY FINDINGS IN MANAGING THE PARK

Some of the implications of the study findings for the park



resource and its management have already been discussed in Chapters VII and VIII. The study illustrates that the crux of the problem with which the park management is faced is the utilisation of a national resource by a local skiing population to its detriment as a natural area preserved for the benefit of all Canadians. Moreover, the skiers are unaware of the impairment that occurs because of their activity.

As Chapters II, III, and IV have shown, the lack of adequate policy guidelines, the increased use which is partly based on the lack of alternative recreation, and the presence of historically acceptable uses and interpretations of the park, have created a situation which precludes effective management action. This situation particularly limits any decision to relocate ski areas outside the park. This choice would also undoubtedly meet with strenuous opposition from skiers. As the study has shown the quality of the activity would decline if ski areas within the park were relocated to present ski areas outside of the park.

If skiing and other facilities-oriented recreation is to remain in the park, zoning is probably the best method of minimising their impact. This is at present the approach being adopted by the national parks (Brookes, 1969, p. 870), though at present Banff is managed without any comprehensive, formal master plan much as it has been in the past (Nelson, 1969, p. 142).

There are a number of problems associated with zoning. One is that the dichotomy between preservation and development will become more formalized than it is at present. Zoning may well introduce permanent de facto multiple uses into what would still remain ideologically a single purpose area. The past history of the national park indicates



future increases in development pressures would be at the expense of the preservation function.

It is difficult to resist the pressures for changes in boundaries, and there is a problem over transitional zones, which are often convenient areas for the future expansion of development (Nelson, 1969, p. 145). This view is supported by the perceptions skiers have of the decline in activity quality caused by crowding, and their preferences for an expansion of ski areas and the building of new ones to relieve any future overcrowding.

These preferences for the expansion of ski areas and other facilities might be offset by an information campaign designed to educate skiers and other users on the logical outcome of these preferences. The majority of skiers have both a high standard of education and are users of the park at other times. This use may not entail a preference for extensive development of the park.

A similar education approach should be adopted to inform skiers of their effect on the park resource and make them aware of the nature of their relationship with the national park. This approach would make skiers aware of their effects and could introduce the idea that the future expansion of ski facilities cannot be accommodated in the park without growing impairment.







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## APPENDIX I

## UNIVERSITY OF ALBERTA (Geography):

## BANFF NATIONAL PARK SKI SURVEY

1. Home Town or Home Area \_\_\_\_\_
2. Are you married or single? \_\_\_\_\_ Any Children? \_\_\_\_\_
3. Occupation \_\_\_\_\_
4. Education: \_\_\_\_\_ a) Elementary b) Grade 8 c) Grade 12 d) University
5. How often do you use Banff National Park for Skiing? \_\_\_\_\_
  - 1) Less than once a month
  - 2) About once a month
  - 3) Two or three times per month
  - 4) Weekly
  - 5) More than once a week
  - 6) Vacation
6. How many years have you been skiing? \_\_\_\_\_
7. Do you use: a) Beginner b) Intermediate c) Advanced Slopes? \_\_\_\_\_
8. Which area in Banff do you generally use for skiing?  
 Lake Louise \_\_\_\_\_ Sunshine \_\_\_\_\_ Norquay \_\_\_\_\_
9. Do you use the others? \_\_\_\_\_ Yes, or No.  
 If so is there any difference \_\_\_\_\_  
 What is it? \_\_\_\_\_  
 \_\_\_\_\_
10. Is Banff Park the nearest ski facility to you? \_\_\_\_\_ Yes, or No.
11. Do you ski outside Banff Park? \_\_\_\_\_
12. Do you use Banff National Park for any other Recreation purposes? \_\_\_\_\_  
 \_\_\_\_\_ Yes, or No.  
 If yes, what are they? \_\_\_\_\_



13. What is the officially defined purpose of Banff National Park?  
a) b) c) d) e) (I) (See Sheet 3)
14. Do you consider skiing as harmful to vegetation? \_\_\_\_\_  
wildlife? \_\_\_\_\_  
If Yes, how? \_\_\_\_\_
15. Would you describe Banff National Park as a wilderness area?  
\_\_\_\_\_
16. Do you see any other park use interfering with skiing here? \_\_\_\_\_  
If Yes, which ones \_\_\_\_\_  
Do they affect your enjoyment? \_\_\_\_\_
17. Do you consider skiing interferes with any other uses? \_\_\_\_\_  
If Yes, which ones? \_\_\_\_\_
18. Which of the following do you see as Essential Requirements for your skiing satisfaction, in order of importance? (II)?  
\_\_\_\_\_
19. Do you ever feel the slopes are too crowded? \_\_\_\_\_  
If Yes, do you feel there is a decline in your enjoyment? \_\_\_\_\_
20. Which animals are you aware of as living in the park (name them)?  
\_\_\_\_\_
21. Which uses are you aware of as taking place in the park (name them)?  
\_\_\_\_\_
22. Which of the following facilities would you like to see included in the present park? \_\_\_\_\_ (III)
23. Do you see the present ski facilities as : Excellent \_\_\_\_\_  
Fairly good \_\_\_\_\_ Adequate \_\_\_\_\_ Not Adequate \_\_\_\_\_  
Poor \_\_\_\_\_  
Would you like to see them expanded? \_\_\_\_\_



24. If crowding caused ski areas to be jammed; how should the National Parks relieve this; By \_\_\_\_\_

\_\_\_\_\_  
(IV)

25. Which of the following uses do you see as suitable in the park

\_\_\_\_\_  
\_\_\_\_\_  
(V)



- I
  - a) General Recreation area for all Canadians and their Recreation needs.
  - b) Natural areas preserved unaffected for future generations.
  - c) Natural areas preserved unaffected but with Recreational uses where these are necessary.
  - d) Natural areas for wildlife preservation and mountain Recreation
  - e) None of these.
- II
  - a) Physical conditions (snow, slope, etc.)
  - b) Ski Facilities (tows, lifts, etc.)
  - c) Service Facilities
  - d) Nearness to Residence
  - e) Other skiiers
  - f) Attractive surroundings
- III
  - a) An Entertainment-Exhibition ground
  - b) More townsite services
  - c) More hiking trails
  - d) A winter Sporting complex
  - e) More paved wilderness Roads
  - f) A Wildlife Paddock
  - g) More Wilderness area
- IV
  - a) Building more ski facilities
  - b) Start a Reservation Scheme for the ski slopes
  - c) Limit the time on the Slopes
  - d) Take the ski slopes out of the park and use other areas, like Kananaskis
  - e) Establish an Entrance limit, like a film theatre, and close the slopes when this is reached, reopening to fill vacancies.
  - f) Charge higher fees
  - g) Leave things as they are to work themselves out.
  - h) Any other.





- V a) Industry
- b) Townsite
- c) Winter sports
- d) Water skiing
- e) Hiking
- f) Wilderness experience



## APPENDIX II

UNIVERSITY OF ALBERTA: GEOGRAPHY DEPARTMENT

(TOWNSITE SURVEY)

EFFECT OF SKI AREAS IN BANFF NATIONAL PARK

ON SCENIC VIEWING

1. Address \_\_\_\_\_
2. Occupation \_\_\_\_\_
3. Education:     Elementary \_\_\_\_\_  
                      Grade 8 - 11 \_\_\_\_\_  
                      Grade 12 \_\_\_\_\_  
                      University \_\_\_\_\_
4. Length of stay:     Day \_\_\_\_\_  
                              Weekend \_\_\_\_\_  
                              Vacation \_\_\_\_\_
5. Purpose of visit to Banff. (check one)  
    (a) To follow a particular activity: e.g. hiking, photography, etc.  
        Specify which \_\_\_\_\_  
    (b) General sightseeing \_\_\_\_\_
6. Have you visited any of the ski areas in Banff Park? Yes \_\_\_\_ No \_\_\_\_  
    If Yes, which one? \_\_\_\_\_  
    Why did you visit it? \_\_\_\_\_
7. Do you ski? Yes \_\_\_\_ No \_\_\_\_  
    If Yes, where do you normally ski? \_\_\_\_\_  
    Have you skied at Banff? \_\_\_\_\_
8. Do you think Banff Park is an area of great scenic beauty? Yes \_\_\_\_ No \_\_\_\_



9. Do you think the existence of ski facilities affects the scenic beauty of Banff? Yes \_\_\_\_ No \_\_\_\_

If Yes, does it detract, or \_\_\_\_\_ severely? \_\_\_\_\_  
enhance \_\_\_\_\_

Can you specify how? \_\_\_\_\_



## APPENDIX III

UNIVERSITY OF ALBERTA: GEOGRAPHY DEPARTMENT

(MOUNT NORQUAY SURVEY)

USE &amp; PERCEPTION OF SKI AREAS: IN BANFF NATIONAL PARK

1. Address \_\_\_\_\_
2. Occupation \_\_\_\_\_
3. Education: Elementary \_\_\_\_\_ Grade 8 - 11 \_\_\_\_\_  
Grade 12 \_\_\_\_\_ University \_\_\_\_\_
4. Length of stay in Banff: Day \_\_\_\_\_ Weekend \_\_\_\_\_ Vacation \_\_\_\_\_
5. Purpose of visit to Banff: (Check one)  
(a) To follow a particular activity: e.g. hiking, climbing, photography,  
etc.  
Specify which \_\_\_\_\_  
General sightseeing \_\_\_\_\_
6. Purpose of visit to this area \_\_\_\_\_
7. What characteristics caused you to come to this area?
8. Do you think the existence of ski facilities here affects your enjoyment  
of the park, If Yes, does it affect it Adversely \_\_\_\_\_  
(Check one) or Beneficially \_\_\_\_\_
9. Do you think Banff is an area of great scenic beauty? Yes \_\_\_\_ No \_\_\_\_
10. Do you think the existence of ski-facilities is compatible with the  
natural scenic beauty of Banff? Yes \_\_\_\_ No \_\_\_\_
11. If you answered NO to Question 10 would you like to see ski facilities  
removed from the national park? Yes \_\_\_\_ No \_\_\_\_
12. Do you ski? Yes \_\_\_\_ No \_\_\_\_  
If Yes, (1) Where do you normally ski? \_\_\_\_\_  
(2) Have you skied at Banff? \_\_\_\_\_





13. Will you be using any of the wilderness trails in Banff? Yes \_\_\_\_ No













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